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ALLIED FORCE HEADQUARTERS
APO 512

STAFF MEMORADUM)
:
NUMBER 7)

~~UNCLASSIFIED~~ 19 January 1943

LESSONS OF OPERATION TORCH

1. A compilation of reports of the commanders of assault and task forces of lessons learned from Operation Torch is being distributed today. The reports of the Eastern Assault Force and Center Task Force are complete. The report of the Western Task Force has not been reproduced in full. The full report is on file in the G-3 Section.

2. General and Special Staff Sections named below will make a study of the reports, and will prepare brief conclusions concerning matters pertaining to their sections. These conclusions will be in the form of a Memorandum for the Chief of Staff, and will be submitted on or before 31 January 1943 to G-3, who will prepare them for the action of the Chief of Staff.

3. Staff officers who will prepare conclusions are:-

G-1	Inspector General
G-2	Judge Advocate
G-3	Liaison Officer
G-4	Ordnance Officer
Adjutant General	Provost Marshall
Air Officer	Psychological Warfare Officer
Antiaircraft Officer	Public Relations Officer
Chaplain	Quartermaster
Chemical Officer	Signal Officer
Chief Administrative Officer	Special Service Officer
Civil Affairs Officer	Surgeon
Engineer	Transportation Officer
Finance Officer	Royal Navy
Headquarters Commandant	U. S. Navy

By command of Lieutenant General EISENHOWER:

T. J. DAVIS,
Brigadier General, A. G. D.
Adjutant General.

DISTRIBUTION:
"A"

Classification changed to
RESTRICTED 28 AUG 1944
By authority of CG of S, G-2, WDGCT

~~UNCLASSIFIED~~

Report Documentation Page

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14. ABSTRACT
A compilation of reports of the commanders and task forces with lessons learned from Operation Torch in North Africa. The report included amphibious operations, air support, armored operations, battalion landing teams, command posts, communications, embarkation operations, field artillery operations, medical services, ordnance, provost marshall, and quartermaster and transportation operations

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: 16 January 1943 :

COMPILATION OF REPORTS

ON

LESSONS OF OPERATION TORCH

oOo

Submitted by Assault and Task Force Commanders in compliance with letter Headquarters Allied Force, 16 December, 1942, file AG 370.2/054-C, subject Lessons from Operation Torch.

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: 16 December 1943 :
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ALLIED FORCE HEADQUARTERS
APO 512

16 December 1942

AG 370.2/054-C

SUBJECT: Lessons from Operation TORCH.

TO : Commanding General, Western Task Force.

1. It is desired to record the many lessons to be learned from the Operation TORCH, while they are still fresh in the minds of officers participating, for the important purpose of improving:

- a. Future planning and execution of operations.
- b. Individual and organizational equipment.
- c. Basic and special training of all individuals and units.
- d. Training and equipment for combined operations or other special operations.
- e. Cooperation between Army, Navy and Air.

2. The formal reports required by AR 345-105, some of which have been received, are too voluminous and too factual to serve the above purpose.

3. Special reports will be assembled, condensed into one report for Task Force Headquarters and one report for each division or separate unit, and forwarded to this headquarters. Authors of basic reports should be encouraged to be frank. Constructive criticism and recommendations should be well received by all branches and echelons of command.

4. To facilitate study and prompt corrective action, sub-divide the reports under appropriate general or special staff section headings. Use separate sheets of paper for matters concerning only Naval or Air Forces.

5. Above reports are desired as soon as they can be prepared, but in any case by 31 December 1942. (Any unit now actively engaged in campaign need not submit reports until after campaign ends.)

By command of Lieutenant General EISENHOWER:

/S/ JAMES F. BARBER, JR.
JAMES F. BARBER, JR.
Lt. Col., A. G. D.
Assistant Adjutant General

Copy to:
G-3

Identical letters to:
CG, CTF
CG, EAF
CO, Comdg 1st Army

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HEADQUARTERS, EASTERN ASSAULT FORCE
UNITED STATES ARMY

SPECIAL ORDERS)
)
NUMBER 34)

18 December 1942

E X T R A C T

1. The following named O are aptd on a Bd to study in detail the reports of the officers of the units of this Force who participated in the recent operations, and to formulate for the CG, EAF, one report covering the lessons learned in these operations from the standpoint of training, equipment, personnel and co-operation between Army, Navy and Air:

DETAIL FOR THE BOARD

BRIG. GEN. BENJAMIN F. CAFFEY, JR., 04929, USA, Hq EAF
COL. CHARLES W. CHRISTENBERRY, 08373, AGD, Hq EAF
LT. COL. RAY C. FOUNTAIN, 0121655, GSC, Hq EAF
LT. COL. ROBERT W. WARD, 017637, GSC, Hq EAF
MAJ. HARLAN D. BYNELL, 0286484, GSC, Hq EAF
CAPT. ROBERT E. TINLEY, 0359153, MC, Hq EAF
CAPT. ROBERT F CHOLLAR, 0360819, INF, Hq EAF

This report will be completed and delivered to the CG, EAF by 2 9 December 1942.

* * * * * * * * * * * * * *

By command of Major General RYDER:

NORMAN E. HENDRICKSON,
Colonel, G.S.C.,
Chief of Staff.

OFFICIAL:

/S/ H. L. STIPP,
H. L. STIPP,
Major, A.G.D.,
Asst. Adj. General.

DIST: "X".

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EASTERN ASSAULT FORCE
UNITED STATES ARMY

UNCLASSIFIED

26 December 1942

LESSONS FROM OPERATION "TORCH"

I - G-1:

1. In the planning stage of the "Torch" operation, there were no exceptional difficulties. During operations the chief difficulty was to obtain battle casualty reports from lower units. It is believed that this can be remedied by having the Adjutants General of Division and higher units conduct schools for Regimental and Battalion Adjutants prior to the beginning of the operation.

II - G-2:

2. Preparation for operation:

a. An abundance of accurate information was furnished to and disseminated by this Headquarters covering our zone of operations. Excellent aerial photographs were provided covering our theater of operations. However, an expert interpreter of aerial photographs would have been a valuable asset to this command. A larger supply of aerial photographs of critical points was needed (only one set of photographs per Combat Team was available).

b. Terminal force, which was an infantry unit under control and operation of the Royal Navy, report that intelligence furnished it was both meagre and inadequate, also that after the plans were revealed to the personnel, there was not sufficient time (about two days) or facilities given for a complete study of the information furnished.

c. It is suggested that since these operations were on shore, they should have had the benefit of the intelligence information passed on to the other land forces in the operations, and in sufficient time to have thoroughly studied that information.

3. Operation "Torch":

a. Very little information came back to Headquarters EAF from our combat units for the following reasons:

1. All units were widely scattered and intermingled, due to failure to land troops at place and at time scheduled.

2. Lack of means of communications, either radio or vehicle. Runners could not function as there was no axis of communications because troops were so widely scattered in landing.

3. Intelligence officers and men were under stress of circumstances used for other than their normal functions.

b. Suggestions:

1. The lensatic compass proved to be too fragile and is susceptible to salt water. A more sturdy water proof compass should be provided for amphibious operations.

2. When regimental Combat Teams operate alone, there should be more provisions for the organization of a prisoner of war collecting section.

3. After the location of this operation was known, it was

[redacted]

impossible for security reasons to pick linguists from troops not coming with us. It is recommended that a general pool of linguists be maintained by higher headquarters, and that qualified linguists suitable for the operation be furnished to the force for assignment to units.

III - G-3:

4. Training:

a. Our great weakness is the lack of adequate doctrine and technique for amphibious operations. This is especially true of the means and methods to be employed by Combat Teams and smaller units. The remedy appears to be to organize a training center employing officers from our Divisions which have had combat amphibious experience, and there develop a technique which is suitable for our organization, for our equipment and for the amphibious missions which our Army may be called upon to perform.

b. Uniformity must be secured as to the method by which rifles, gas masks, and other equipment is carried; in the method of lowering equipment from ship to landing craft; in the methods personnel should use in descending nets; in the method in getting out of landing craft; and finally and most important in the methods in reorganizing ashore.

c. Ship to shore training must include training in rough water as well as quiet water. It must also include training on different types of beaches, that is, on open beaches from which an exit can be made on a broad front, on beaches where there are only one or two exits, and finally on beaches where "scrambled" landings must be made.

d. Another defect in training was that the Battalion landing teams of the U.S. trained Combat Team were trained to land personnel and vehicles in a certain sequence on a single beach. In the "Torch" operation that Combat Team found it necessary to land personnel on two beaches and vehicles on a third beach. This caused considerable confusion.

5. Equipment:

a. The individual equipment of our soldiers is excellent. The only fault to be found is that there is too much of it. This is especially true of the equipment of the Infantry officer, who is so loaded down with heavy cumbersome equipment so that his mobility is impaired. A careful study should be made of the individual equipment to be carried. This study should be based on the principle that the equipment of both officers and men should be as light as practicable.

b. Weapons and ammunition function satisfactorily. Salt water and salt water spray cause malfunctions in automatic weapons. This can be obviated by giving such weapons a thorough coating of S.A.E.-30 motor oil.

c. The question of the types of vehicles to be carried is a difficult one. It is recommended, in any future operation, that at least 50% of the T.B.A. 2½ ton trucks be taken. All vehicles should be water proofed before landing. A minimum of twelve very lightweight solo motorcycles and twenty four bicycles should be included in the equipment of each battalion landing team.

6. Communication:

a. Communication troops were generally adequately trained in their individual jobs. There was, however, a number of communication officers who had never had this type of training. Due to the controlled exercises in which our troops had been training, a marked reluctance on the part of communication sections to depart from orthodox book "doctrine" was discovered. It is recommended that our service schools introduce a subcourse in amphibious communications.

(EQUALS BRITISH [redacted]

b. As this operation involved the use of radio only in the assault phase, the following comments are pertinent to radio:

The present Infantry Division radio equipment from Division Headquarters to Battalion Headquarters is designed to be used primarily as vehicular sets, consequently little thought is given as to whether portable combination ground and vehicle sets function properly when used as ground stations. The Infantry regiment relies principally on the SCR-284. The weight of this set when dismounted from its vehicle is 110 pounds. This weight added to the individual equipment and arms of the operating personnel is almost prohibitive on long marches. Again while this set is being carried as a pack it cannot be operated and it is necessary to halt before the set can be placed in operation.

SCR-195 has proven to be unsatisfactory due to the ease with which it can be masked. It operates satisfactorily from small craft to shore as there are no obstacles to mask the set.

SCR-536 does not have the necessary range for amphibious operations. A set is needed for use between battalions and companies with a range of approximately five miles. The battery supply of this set is extremely critical since battery drain is high as compared to battery capacity.

It is recommended that a portable set similar to the British No. 46 be developed for this type of operation; that a hand cart in which SCR-284 sets may be mounted with storage batteries as a source of power be issued; that water proof bags be furnished with all radios.

7. Planning:

a. The biggest defect in planning was that Battalion commanders were not taken into the confidence of the commanders of higher echelons early enough so that they could intelligently make their own plans under the supervision of Division and Combat Team commanders. It is strongly recommended that in future operations Battalion commanders and their staffs be included in the planning of amphibious operations.

b. It is fundamental that Combat Team commanders should be given the task of loading their ships to accomplish the mission which has been prescribed for them. In operation "Torch", the British insisted that the loading plans be made by the Division. It is recommended that in any combined operation, in the future, Combat Team commanders be given the task of loading their ships in order to fulfill their prescribed missions.

8. Operation:

a. The actual operations of this force consisted of infantry skirmishes. Field Artillery was not employed due to the fact that high seas prevented its landing in sufficient time to be effectively employed. The infantry 81mm and 60mm mortars were especially efficient in dislodging enemy troops from buildings and prepared defensive works.

IV - G-4:

9. General:

The following observation is fundamental. The intermingling of the British and U.S. Army supply systems should be studiously avoided wherever possible. In an operation where the troops participating are partly British and partly American, duplicate parallel channels of supply must be established and maintained. This situation, the constant and never-ending necessity for compromise as to principles and technique of supply make a very difficult task unnecessarily more difficult. In future amphibious operations, the Army element should be exclusively American or British, but not a mixture of the two. Observance of this principle will eliminate many faults in technique which existed in operation "Torch".

10. Embarkation:

To facilitate the embarkation of troops in a[redacted]phibious operation,

a "staging area" should be established. This staging area should have a "camp complement" including transportation, cooks, medical officers, and other necessary camp overhead. In an amphibious operation, it is normal that the organic transportation of the unit concerned is loaded a considerable period ahead of actual embarkation of the troops themselves. During the intervening period the troops are without transportation, and without kitchens, (kitchens having been stowed inside the trucks when the trucks were loaded) unless the staging area system is used. In operation "Torch", this staging area arrangement was improvised with fairly satisfactory results; it is recommended that it be SOP for all future operations.

11. Separation of Vehicles and Drivers:

In this operation, in many instances, drivers of vehicles were transported on one ship while their vehicles were transported on another. The bringing together of the driver and his vehicle from different ships, in the dark, and under adverse circumstances presents a very difficult problem of coordination. If landing in the face of active hostile resistance, it is believed extremely doubtful whether this could be done effectively. It is recommended, therefore, that in all future operations drivers travel on the same boat with their vehicles.

12. Rations:

In principle, the British type 48 hour ration is sound. The American "C" and "K" rations are excellent so far as nutrition is concerned, but the soldier has no place to carry them. The British 48 hour ration is designed to fit into the British type mess tin, but there again that ration will not fit into the American mess kit old or new type. Consequently, it is recommended that a ration be developed, following the lines of the British 48 hour mess tin ration in principle and containing the essential items of the U. S. "K" ration, with the containers designed in size and shape to fit inside the U. S. mess kit, new type. The problem of bulk as well as weight is important in landing operations, and such a ration would utilize what is now dead space inside the U. S. mess kit.

13. Grenades:

At present, the U. S. soldier has no method of carrying hand grenades or M9 AT grenades other than pure improvisation. He now is forced to stick grenades into his trouser pockets or wherever he can. It is therefore recommended that a suitable size haversack, knapsack, or field bag be devised and issued to U.S. troops for this purpose. Among other qualities it should have a wide, firm shoulder strap to avoid a cutting-type pressure over the shoulder or on the neck which is likely to occur when carrying heavy loads.

14. Life Preservers:

Reports indicate that both the British type "Mae West" and the American self-inflating type life preservers are not completely satisfactory for landing operations. It is recommended, therefore, a type of life preserver capable of sustaining a man with his equipment be developed and issued in all landing operations.

15. Medical:

a. It is recommended that a lightweight binder be developed and issued to securely immobilize wounded men being carried in litters. This would facilitate the handling of wounded personnel being carried over rough terrain, by air, or when the litter is being taken on or off ships.

b. Individual Venereal Prophylatic Kits: Between the start of our amphibious operation and the ability of units to establish venereal prophylatic stations, a considerable length of time lapses. Experience has shown that immediately after hostilities cease or our mission is accomplished, personnel are prone to expose themselves to venereal disease. It is recommended, therefore, that individual prophylatic kits be issued to each man coming ashore in landing operations to enable him to bridge the gap, if necessary between the start of the operation and the establishment of a prophylatic station.

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c. Ambulances: The landing of ambulances in the early stage of an amphibious operation is difficult. The use of ¼-ton, CR Cars, equipped with a frame superstructure to carry litters was found to be practicable in operation "Torch". It is recommended, therefore, that such or similar means be used in the early stages of all landing operations.

d. Morphine Syrette: The use of morphine "syrette" containing compound of morphine tartrate was found in operation "Torch" to be necessary and practicable. It is recommended that in all future landing operations that company aid men and other medical personnel be issued morphine syrettes on the basis of one syrette for every four (4) individuals. In this type of operation against determined opposition, casualties, of course are likely to be quite high. It is believed that one syrette per four (4) individuals is a practical minimum.

e. It is recommended that a hospital ship accompany an assault task force so that seriously wounded men may be evacuated until adequate hospitals can be established ashore.

f. Battalion and regimental surgeons report that in many cases medical personnel knew nothing of the tactical situation. The medical service, especially in the early stages of the operation, was extremely sketchy. This fact again emphasizes the necessity of having Battalion commanders and their staffs taken into the problem early in the planning stage.

16. Beach Organization:

The beach personnel must be familiar with the troops and type of equipment to be landed. In operation "Torch" the beach organization was British on two of the three beaches and was composed of personnel who were not familiar with U. S. equipment and organizations. In many instances they disregarded U. S. priorities and substituted British priorities. Example: British staff cars were landed in place of U. S. artillery pieces which were urgently needed. The priority of landing supplies on the beach must be planned by the supply officer of the landing team. The handling of supplies on the beach must be carried out according to that plan. The handling of the supplies on the beach must be carefully rehearsed just as the other parts of the operation are rehearsed.

V - ARMY, NAVY AND AIR COOPERATION.

17. Army and Navy Cooperation:

a. Cooperation between individuals of the Army and Navy, both British and American, was entirely satisfactory. However, it is recommended that the line of demarkation wherein the Navy has full control of the operation until the troops reach the shore, should be changed so that the Army takes control when the troops get into the landing craft. Landing craft personnel should be Army personnel and trained by the Army. The reasons for this recommendation are:

1. The crews of landing craft must be highly trained in landing operations. Able-bodied seamen, no matter how well or how effectively trained in their duties aboard ship, are not competent or trained to man landing craft.

2. The Combat Team and Battalion commanders prescribe the plan by which the troops are to go ashore. Having planned it, they should be given the job of getting their commands ashore.

3. During the preparation for an amphibious operation the crews of landing craft and the assault troops should be carefully trained together until they are letter perfect in their respective duties; then crews, assault troops and landing craft should all three be loaded on the ships together. This will require that during the final training stages, complete information as to the ships to be used including their capacities must be in the hands of the various commanders.

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b. Ships of all types and classes were furnished for this operation. From an Army standpoint assault ships should have the following specifications: Tonnage - 10,000 to 15,000; speed - not less than 18 m.p.h. cruising speed in order to avoid submarines; sufficient berthing space for seventy five officers and 1,500 men; adequate troop kitchens and dining rooms, adequate bathing facilities; exits from berthing compartments arranged to facilitate the movement of troops to debarkation ppints; a minimum of five debarkation points on each side of the ship; a minimum of four holds; two forward and two aft; adequate booms so rigged that they can simultaneously handle Army loads; adequate deck space at debarkation points so that troops have sufficient room to disembark; sufficient deck space so that troops can get proper physical exercise.

c. The present landing craft are inadequate in every respect. They are too small to carry tactical units; they broach easily; they break up in moderately heavy seas; their compasses are worthless. It is strongly recommended that a suitable landing craft large enough to carry a platoon of infantry with two units of fire and all platoon weapons be developed.

d. During operations two calls were made on the British naval forces for naval gunfire. In the first case it took one hour to get the gunfire; in the second it took two hours.

e. The only air support of this force during the assault phase, except adequate reconnaissance aviation, was carrier based naval aviation. One call was made on it -- to bomb Fort Lazaret on Cap Matifou. It took two hours to get this support.

f. The time lag for both naval gunfire and air support appears to be excessive. It is suggested that the problem of such support be given careful consideration and study.

CHAS W. RYDER;
Major General, USA.,
Commanding.

[redacted]

[redacted]

29 December, 1942

SUBJECT: Lessons from Operation TORCH.

TO : C-in-C, A F Hq.

1. In compliance with letter, A F Hq, 16 December, File 370.2/054-C, subject as above, the attached report is submitted.

2. This report is sub-divided into appropriate general and special staff sections, in accordance with par. 4, basic communication.

For the Commanding General:

(Signed) J. A. Dabney,
J. A. DABNEY,
Colonel, G.S.C.,
Chief of Staff.

1 Incl:

Lessons from Operation TORCH.

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[redacted]

INCLOSURE NO. I. [redacted] BRITISH MO[redacted]

HEADQUARTERS CENTER TASK FORCE
APO 392

29 December, 1942.

LESSONS FROM OPERATION TORCH

1. G-1.

a. Prisoner of War Escort Companies. Prisoner of War Escort Companies must be provided in troop lists of units to participate in operations as Corps and Division Military Police Companies are not organized in such manner that they can operate as Prisoner of War Escort Companies. Control of P. of W. is a grave concern during operations, and this method of control should not be overlooked. An Engineer company was used during the operation to handle P. of W. This company was not properly organized nor properly trained to handle P. of W.

b. Graves Registration Units. G.R.S. units on the basis of one company per Corps should be included in lists of units to participate in an operation. This unit can maintain accurate records of the deceased and location of graves. The duties performed by G.R.S. units should be removed from responsibilities of combat unit. This removal of such responsibilities is possible only through including G.R.S. units in the operation. No G.R.S. units were included in assault convoy because of limitations on shipping. If space is available, it is desirable to include a G.R.S. unit in assault convoy.

c. The G-1 plan for Operation TORCH C.T.F. was incomplete in that it did not provide in detail for the early establishment of Civil Administration. Likewise, planning did not include the method, type, and quantity of billets to be requisitioned in towns. This was particularly true in ORAN.

2. G-2.

a. For any amphibious operation which is to take place in an area where a foreign language is spoken, special needs for interpreters must be anticipated. Teams should be organized and trained prior to embarkation, so that during actual operation, each task force and sub-task force headquarters will have this personnel available. There were not sufficient interpreters for operation. Each task force headquarters and sub-task force headquarters should have at least two officers and six enlisted men to act as interpreters. This personnel should have a good military background.

b. Improper use was made of 128th Signal R.I. Co. In future operations G-2 must assign missions direct to this type unit. In operation TORCH, C.T.F., it is believed that the facilities of the 128th Signal R.I. Co. were wasted because of poor loading plans and because G-2 failed completely to assign it missions.

3. G-3.

a. Future Planning and Execution of Operations.

(1) Directive for Planning. It is essential that planning staff (preferably small) be given a clear cut directive as to the object and scope of the operation at the earliest practicable time.

(2) Size of Force to be Employed and Shipping to be Made Available. The uncertainty which existed in September as to the amount and type of shipping to be made available for C.T.F. for Operation TORCH made it difficult to plan on troop basis, or even the operation itself. It would appear advisable in the future to approach an operation as follows:

(a) Determine the troops and equipment considered essential to do the job.

(b) Make decision as to whether or not shipping to transport required troops and equipment can be made available.

[redacted]

(c) If shipping is to be made available, plans should be continued to include desired order of arrival and debarking of troops and equipment.

(d) From (C) above, prepare detailed loading and unloading tables for assault and follow-up convoys when exact shipping to be made available is known.

(3) Shipping for Assault Units. Although operation TORCH in C.T.F. area was highly successful, it must be remembered that a large part of this success was due to excellent weather, lack of organized resistance at the beaches, and the poor state of equipment of French troops. The British system of combat loading which placed unit personnel on one ship, with unit equipment on several other ships, is not considered satisfactory. Had determined resistance been met at the beach, it is believed considerable difficulty would have been experienced in landing troops and equipment in the proper amounts at the right places. The British system of combat loading amounts to "Convoy Loading by Beach" In American terms. For future operations it seems desirable to combat load all troops of the assault convoy. By combat loading is meant the placing of a unit and its equipment on the same ship.

(4) Armored Units. In all future planning it is believed that the use of Armored Units should be stressed. The coordinated use of Infantry and Tanks permits maximum exploitation of surprise or early success. Also the psychological effect on the enemy caused by the early appearance of tanks cannot be over-emphasized. It is further believed that the inclusion of tanks where practicable will minimize casualties and reduce the time required to reach objective. Special types assault craft to transport large numbers of tanks, AA guns, artillery, and other vehicles must be made available. For anything except a beach of extremely steep slope (1 to 24 or steeper) the present "Maracaibo" type ship draws too much water (7 feet at the bow). In unloading these ships in the ORAN Area, Ponton bridging was used, but this was an expedient which would not have worked except in a calm sea.

(5) Parachute Troops. It is believed parachute troops can be safely transmitted long distances with a reasonable chance of arriving over their objective at the scheduled hour. Parachute troops should be used for destruction or neutralization of important objectives which other troops cannot be expected to reach immediately. Examples: Airdromes, Ports, Centers of Communication, etc. Operations of parachute troops must be coordinated with those of air and ground forces. To obtain surprise, H Hour should be same as for other assault elements.

(6) Time of Attack. It appears certain that in an amphibious operation the approach and initial assault of leading waves should be under the cover of darkness. Darkness gives protection during the most vulnerable part of the operation to the men in the assault craft. This protection more than compensates for the extra difficulty in locating beaches. Also, during the initial assault phase the confusion of attacking troops is offset by the chance surprise. A reasonable time for an attack would appear to be three to four hours prior to daylight.

b. Individual and Organizational Equipment.

(1) Use of Pack Howitzers. As a result of Operation TORCH, C.T.F. it appears certain that each light artillery battalion should be organized so as to include at least one battery of 75mm Pack Howitzers. However, the inclusion of this special purpose artillery in no way eliminates the necessity for 105mm Howitzers being in position and prepared to fire at daylight.

(2) For other comments on individual and organizational equipment, see report of Division and separate units.

c. Basic and Special Training of all Individuals and Units.

(1) All troops used in an amphibious operation should complete a thorough course in basic training prior to embarkation. The following training should be stressed: Use of Compass; Scouting and Patrolling; Cutting Passage through Barbed Wire Entanglements; Reduction of Pill Box Type Fortification;

Qualification and Combat Firing; Pioneer Work to Include Repair of Bridges and Getting Vehicles through Mud and Sand; C.P. Exercises with particular emphasis on signal communications and reports to be made to higher headquarters.

(2) All units selected for the assault phase of the operation should be experienced troops, especially trained in amphibious operations. Th training should include loading of personnel and equipment aboard ship, unloading of personnel and equipment from transports and L/T ships into assault craft, assault fire delivered from assault craft, and method of unloading personnel and equipment from assault craft.

(3) During sea voyage, if it is of more than two or three days duration, every effort must be made to keep troops in fighting physical condition.

d. Training and Equipment for Combined Operations or Other Special Operations.

(1) Units to be used in the assault should be required to undergo a practice operation with the same type boats, landing craft, and equipment as contemplated for the actual operation. The exercise its lf should be similar in nature and should be repeated as often as is necessary and time permits.

(2) In each operation there is usually a specialized operation such as reducing particular fortifications or capturing certain critical ar s near beaches. These missions can best be accomplished by Ranger or Commando units, or by picked combat troops who have been given special training. For a critical area not near beaches, parachute troops are best suited to effect its early capture.

e. Cooperation between Army, Navy, and Air.

(1) It is believed that the very close cooperation which existed between Hq. C.T.F. and Hq. Naval Task Force during the operation was due to a complete understanding by Commanders and staffs of the capabilities and limitations of each service, plus a broad overall understanding of the operation as a whole. The close association of members of this Command with Admiral Troubridge and his staff at Norfolk House, London, during the planning phase was largely responsible for the close cooperation achieved.

(2) Command. By agreement with the British Navy, Hq. C.T.F. assumed command of all Army units as they reached the beach. This was a reasonable solution. Requests for air support and bombardment from naval vessels was made to Commodore Troubridge and staff. Whenever it was humanly possible to do so, he complied with every request and support given was effective.

(3) Special Problem which Arose between American Army and British Navy during Assault Phase. During the initial phase of the assault there was an undue amount of delay in loading personnel and equipment into assault craft. It is believed that this delay was due to the fact that neither British Officers in the assault craft nor American Army Officers aboard transports were quite sure who should take the situation in hand. For future operations it is believed advisable to have a selected American Army Officer in each landing craft.

(4) Air. As a result of Operation TORCH, it seems clear that land based Air must enter the picture at an early hour. Otherwise, air superiority cannot be maintained. Most operations should, therefore, have as an important objective the seizure of an airfield. This field must be supplied quickly with fuel and lubricants, ammunition, bombs, communications equipment, and a limited amount of maintenance. These supplies must have a high priority and be fitted into the tactical plan, inasmuch as they must be unloaded with combat units and even escorted by combat units. Once the field has been seized and stocked, planes should be flown in without delay. Pilots must expect to be required to perform combat missions soon after [redacted] type operations.

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4. G-4.

a. Landing craft can make more rapid turnaround by working direct with one ship rather than reporting to a central control each trip.

b. Sommerfelt track not very satisfactory in sand, needs continual maintenance.

c. Bulldozers needed on beach early.

d. Track laying vehicles needed to move supplies from beach to initial dumps.

e. Establishment of a motor vehicle pool on each beach is a very satisfactory method of handling transportation initially. Pool needs maintenance personnel ashore with tools early to de-waterproof and render other maintenance.

f. Supplies, insofar as practicable, should be packaged so one man can handle.

g. Balanced packages of spare parts and tools should be brought ashore early.

h. Service elements of assault units should be landed as early as practicable.

i. Adequate shipping should be made available to build up motor transportation to T/BA promptly.

5. Air Support.

a. Unit radio equipment of Air Support Parties must be combat loaded with the vehicles of the assault troops.

b. Radio equipment of Air Support Parties must be as mobile as the C.P. of the Combat Teams.

c. The Air Support channel may be utilized in the absence of other workable communications for Combat Teams to higher headquarters.

d. VHF radio equipment should be a part of basic equipment for each Air Support Party.

e. Fighter a/c/ with cannon may be very effectively used in the absence of light bombers against armored vehicles and light tanks. This was demonstrated in the destruction by fighter a/c of one complete unit of French tanks, which attempted a counterattack from direction of SIDI-BEL-ABBES.

6. Antiaircraft.

a. Future planning and execution of operations. Antiaircraft Automatic Weapons Units should be among the first troops landed in order to furnish initial protection for the beaches. Sufficient motor transportation should be landed early to permit prompt movement inland to furnish initial protection for captured airfields or ports.

b. Individual and Organizational Equipment.

(1) Accessories, special lubricants and spare parts should always accompany the armament to which they pertain.

(2) More rugged packing boxes should be furnished for the fire control equipment of Automatic Weapons Batteries. Regular issue type which were used are not considered satisfactory.

7. Artillery.

a. For assault divisions in an amphibious operation, each light artillery battalion should have one or two batteries organized as 75mm Pack Batteries.

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[redacted] EQUALS BRITISH MOST [redacted]ned. Medium Battalion should be brought in early, equipped with 105mm materiel replaced by 75mm pack batteries. Materiel for medium battalion should be brought in as early as shipping permits.

b. There is an early need for both types of artillery mentioned in a above.

c. The Bn. F.D.C. should be established as soon as batteries are close enough together to warrant it.

d. There is early need for an air O.P. as well as a detachment of the Corps Observation Battalion for locating hostile batteries.

e. Accurate fuze setters must be issued 105mm units.

f. Shell, H.E., with fuze M-48, set for delay action afforded good ricochet action.

g. A light armored vehicle is particularly useful for a forward observer.

h. Shell, smoke WP, proved effective against personnel, and also for screening purposes.

i. Accurate, durable, and uniformly manufactured graphical firing tables for appropriate calibers should be issued to all artillery units.

j. Naval supporting fires.

(1) Ships expected to give support must be kept informed of location of supporting troops.

(2) Naval fire on a point target at long range cannot be expected to be very effective. (In one case, H.M.S. Rodney opened fire on Fort du Santo at 32,000 yards. 120 rounds of 16" shells, and 180 rounds of 6" shells were fired. 7 rounds fell within the Fort area.)

8. C.W.S.

a. It is believed that smoke is highly desirable in any amphibious operation whether H hour is at day or night. It is at times essential to screen ships from shore batteries. This was especially true at ARNEM when early on 8 November a battery of 75mm guns which had not been mopped up by assault troops opened up on Convoy. This type of smoke screen can best be accomplished by special Naval craft. There is also need at times for smoke on the beach itself, to protect troops who are landing from observed hostile fire.

b. Smoke plans should also include the use of smoke pots around vital areas to prevent precision bombing.

c. If indications are that enemy will use gas, assault troops should be given special training in protective measures.

9. Civil Affairs. Civil Affairs Section should be made available to planning group early in order to permit proper coordination of tactical operation and plan for civilian control.

10. Engineer.

a. Future Planning and Execution of Operations. In the actual operation, a large proportion of the Engineer Section should be included in the Forward Echelon assault group to assist in the establishment of dumps, salvage, and repair operations.

[redacted]

b. Individual and Organizational Equipment.

(1) Organizational equipment shipped with the kitchens should include filled five gallon water cans, so that water will be immediately available.

(2) The addition of a 250 gal. water trailer to each kitchen would improve the distribution of water.

(3) The tank trucks now furnished Water Supply Companies are th gasoline type, and are not rust-resisting water tanks.

(4) For follow-up convoys, organizational equipment and supplie should be broken down so that the loss of one ship does not completely cripple a unit, such as the loss of all the equipment of the only Dump Truck Company ordered to this operation.

11. Ordnance.

a. Although S.O.S., ETOUSA, was directed to issue to all units prio to sailing, full T/O and T/BA equipment and supplies, plus 45 days combat maintenance, vital equipment, essential accessories, and necessary spare parts were not issued. This failure is believed due to the shortage of time.

b. In the future it is believed advisable to require S.O.S. of any theater supplying an operation, to submit an itemized list at least ten days prior to sailing date, of all shortages it is unable to supply.

12. Provost Marshal.

Individual and Organizational Equipment. Motor equipment set-up in T/O is at least 50% inadequate for any operation. This was the subject of a report rendered to the Provost Marshal General, ETO, in September 1942. The 202d M.P. Company has been able to function efficiently because this fact was recognized and the number of 1/4 Ton, 4 x 4 and Reconnaissance cars doubled from twelve to twenty-four.

13. Quartermaster.

Future Planning and Execution of Operations.

a. Class I Supplies

(1) Packaging unsatisfactory. Recommend discontinuing use of cardboard where contact with water is probable. Recommend B ration be packaged complete in a single container of 5 rations each.

(2) Compo ration fine for handling, tasty but monotonous to eat for any length of time.

(3) No information yet on K ration, which was used only for para troops. Experience shows it packed better than C ration for "over-the-side" use.

b. Class II Supplies

(1) During early stages initial issues are made, not Maintenance issues. Ships sink, organizations outflanked, etc., thus calling for replacements. Recommend Class II maintenance factors be increased to meet this demand.

(2) Filter discs and other parts for field ranges not available initially in sufficient quantities. White gas must be provided for field range.

c. Class III Supplies.

Experience in this theater showed for first 30 days that the 5 gallon per day 75 octane estimated consumption should be increased to 10 gallons per day.

d. [redacted] (EQUALS BRITISH MG [redacted] Equipment.

(1) Lack of laundry facilities and fuel to heat water has lessened life of clothing and equipment of personnel. No dry cleaning facilities were made available.

(2) Provision should be made for re-supply by issue or sales to officers and nurses whose equipment and clothing were lost as a result of combat or otherwise. Sanitary supplies for nurses should be made available likewise.

14. Signal.

a. Untrained troops. Signal units generally had troops who were barely beyond the basic training phase. Less than 25 percent of some units were qualified in the specialist or team phase.

b. Lack of Transportation. Signal units arrived in the theater of operations with only about 25 percent of their transportation, and at D plus 13 they still had only about 70 percent of their transportation. This situation would have been very serious if any real opposition had been met.

c. Separation of Troops from Equipment. Equipment was taken from units about D minus 30 for shipment. The units were taken without training aids and, since units were denied an opportunity to guard their equipment, it later was returned to them in active operations in a damaged or unserviceable condition.

d. Signal Equipment. Was generally excellent, particularly as to SCR-536s, SCR-511s, and SCR-299s, but was not available in time to give crews opportunity to become familiar with same. Lack of training was largely responsible for the almost complete failure of communications.

e. Loading of Signal Vehicles. Radio, motor messenger and wire, on ships separate from personnel, resulted in serious delays in securing reasonable prompt communication from units ashore to CPs still on the ships.

15. Special Services. In building up good will among civilians in captured or occupied areas, it is believed the use of American films is very important. It is believed that a large supply of 16mm feature films should be included in an early convoy. These films may also be shown to our own troops and will undoubtedly do much to maintain morale.

16. Medical.

a. Future Planning and Execution of Operations. In planning of future amphibious operations, it is essential that some concessions be made to the medical service which are not normally necessary, such as:

(1) Medical units must be given a high priority of going ashore following combat troops.

(2) Organization equipment must be combat unit loaded

(3) Medical equipment must accompany the unit ashore.

(4) Critical items of medical supplies must be deck loaded and made available to medical troops ashore.

b. Individual and Organizational Equipment.

(1) Individual equipment - The medical equipment carried by the medical soldier is not sufficient for this type of operation and must be augmented by having medical personnel hand-carry additional supplies and equipment. This was accomplished in this operation by the use of "Vest Type Haversacks", and yet, was not sufficient in some instances.

[redacted]

(2) Organization [redacted]

(a) Battalion and regimental sets of equipment must be augmented by hand-carrying of additional blankets, letters, splint sets, etc.

(b) Evacuation and Surgical Hospitals - Equipment of these units is too heavy and bulky to be effectively handled across the beach. In planning amphibious operations, refrigerators and other heavy equipment should be left out and brought in later. The essential equipment should be combat loaded and critical items deck loaded and made available to the units ashore or call.

c. Basic and Special Training for Individuals and Units.

In many cases medical units had not seen the equipment they were to receive on the beaches. This should be avoided in the future, if possible.

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HEADQUARTERS 1st INFANTRY DIVISION
APO #1, U. S. ARMY

[redacted] UNRESTRICTED

December 25, 1942.

SUBJECT: Lessons from Operation TORCH.

TO : Commander-in-Chief, Allied Force Headquarters.
(Through Channels)

In compliance with secret letter, Allied Force Headquarters, dated 16 December 1942, subject: Lessons from Operation TORCH, the following special report is submitted. Constructive criticisms and recommendations are included as directed.

SECTION I
PLANNING AND EXECUTION OF OPERATIONS

1. To permit effective planning, staffs of participating units should be advised as early as practicable of:

a. The mission.
b. Objectives, limited or extended.
c. Tactical Plan.
d. Duration of effort.

in order to determine:

a. Type and quantity of equipment necessary.
b. Special equipment required.
c. Initial and reserve supplies required.

2. G-1.

a. A more detailed plan for the control of the civil population is required before the start of another operation. The plan must be definite and should include provisions for adequate, trained administrators; give the status of the present civil government; set up curfew regulations for occupied areas; price control measures, currency and rate of exchange; make provision for survey parties to provide billets and bivouacs for combat troops and security details for rear areas; provide for the disposition and control of hostile elements of the population; and definite plans for seizure, security and operation of utilities. This plan was incomplete for the TORCH Operation.

b. A very carefully coordinated Prisoner of War directive must be given subordinate units and the proper staff officers must be ashore to see that the directive is followed.

c. The strength of the Military Police Platoon in Division Headquarters Company was inadequate in this operation. A Military Police Platoon should be added to the Headquarters Company of each infantry regiment.

d. The shortage of artillery officers was acute in Operation TORCH. The officer personnel in each artillery battalion should be increased by 20% of T/O strength for amphibious operations in view of the special requirements for liaison purposes, shore party details and Transport Quartermaster details.

3. G-2.

a. Adequate maps must be provided. If contoured maps are not available, overprints may be made by engineer reproduction personnel.

b. Higher echelons must provide trained interrogators to question prisoners of war at inclosures set up on the beaches.

c. The radio intercept platoon, Division Signal Company, should be provided as per table of organization. It should be [redacted] unit, fully equipped and ready for combat.

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d. The map coordinated codes, as outlined in both the Corps and Division S.O.I. are too complicated. Any prearranged codes to be used in an operation must be distributed early enough to permit thorough instruction before convoys sail.

e. There was little dissemination of information from higher headquarters. Higher headquarters should make positive reports of the location of subordinate units and of enemy information to all lower units.

f. Artillery fires were many times handicapped by lack of aerial photographs showing position of hostile batteries and gun positions.

4. G-3.

a. Prior to an overseas expedition, troops involved must be assembled or kept assembled in the staging area so that they may be moved directly from the staging area to the port of embarkation and thence on to ships. In this particular case, the Division was widely separated for preliminary training. The administrative difficulty of checking supplies and equipment and in distributing orders caused much confusion.

b. Available shipping must be definitely known and assigned as the basic factor for all planning. Plans must be considered tentative until shipping is definitely assigned.

c. Failure to combat load ships will be fatal in the face of active opposition on the beaches. Combat loading means that armament and organizational equipment essential to combat must be loaded on the same ship with the unit and in a priority that will permit its landing with the using troops. We were not combat loaded for the TORCH Operation. There was great delay and difficulty in "marrying" gun crews and weapons on the beach.

d. Tactically, the ideal formation for landing is combat teams abreast, each in column of battalions. This permits better organization on the beach and simplifies shore logistics. Since an amphibious operation is largely logistical, any means of simplifying this problem should be followed, to the degree compatible with accomplishment of the tactical mission.

e. Planning must be complete and detailed and all orders must be issued prior to sailing. It is impossible thereafter to distribute orders and information. Secrecy must be preserved, but at the same time, individuals in command and staff positions must know the plans and have an opportunity to study them. Failure to completely disseminate orders and information might nullify the effect of the best plans.

f. (1) Command groups were improperly trained with respect to communications. During the planning phase, intensive instruction must be given all officers in communication and message writing.

(2) Higher echelons should establish advance command posts on the beach early in the operation.

g. Liaison officers are vitally necessary during the rapid movement of open warfare. Usefulness of liaison officers in the TORCH Operation was illustrated by the effectiveness of the II Corps liaison officer on duty with this division and by the active use of liaison officers within the Division.

5. G-4.

a. Ships to be assigned combat units should be determined well in advance, and plans of such ships, showing characteristics, profiles, and floor plans of ships' holds, MUST be made available to Transport Quartermasters during the planning stage for study and preparation of loading tables in order that efficient combat loading may be achieved.

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b. The [redacted] and the division staff must work in close liaison [redacted] planning until the end of the combined operation. This requirement cannot be too strongly emphasized. differences between naval and army elements in procedure, terminology, and execution must be synchronized and coordinated.

c. Preparation of landing tables by division and higher staffs must be carefully coordinated and balanced to avoid landing service personnel and equipment not essential to the initial stages of combat at the sacrifice of combat personnel, equipment, and supplies.

d. Execution of an amphibious operation commences in the home staging area with the procurement and assembly of equipment and supplies and movement of units and supplies to ports of embarkation.

e. Where rail and motor movement of personnel and supplies are controlled by higher or allied headquarters, as was the case in England, division staffs MUST participate in preparation of movement tables. Dissemination of instructions and orders to effect the movement must be through division headquarters and in NO CASE direct from higher or allied headquarters to a subordinate unit of the division. Movement of the Division to ports of embarkation in England was controlled by the British War Ministry who issued movement orders direct to subordinate units. This resulted in the Division Commander and Staff losing all control of subordinate units. It caused much unnecessary confusion.

f. To sustain an opposed landing, it is essential that all landing craft and port facilities be utilized on a 24-hour basis to land combat equipment and supplies. During the TORCH Operation, landing craft were frequently idle due to:

(1) Crews tying up their craft for meals or rest.

(2) TCMs and British SNOLs failing to bring craft alongside sallyports for loading.

(3) Landing craft crews tying up their craft in Arzew Port instead of returning to their assigned ship.

(4) Port facilities in Arzew not being utilized promptly, and to the maximum, thus making impossible the release of landing craft for use by other ships.

To prevent waste of effort, use and control of all landing craft should be centered in the PMLO on the staff of the senior tactical commander.

SECTION II
INDIVIDUAL AND ORGANIZATION EQUIPMENT

6. G-3.

a. The burden of the combat soldier must be lightened to the point where he has only the essentials for initial combat. Equipment, and particularly clothing, will vary with the season and theater of operations. Much will depend on G-2 estimates. For example, gas masks should not be carried unless there is a strong possibility that gas will be encountered. Transportation will always be scarce in the initial phases, so organizations must depend on initial combat equipment. Tactical surprise and speed in execution far outweigh the advantages of having equipment necessary to cope with any contingency.

b. Pack artillery (broken down loads) should be combat loaded on personnel ships. It should be taken ashore in personnel landing craft with sufficient ammunition to function during the initial stages of the operation. This is insurance against a landing in bad weather where the heavier, non break-down load type such as the 105, cannot be landed. The 105 is admittedly a far superior field piece. However, it must be taken

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ashore in a vehicle landing craft, [redacted] into this landing craft with the ship's cranes. In rough weather this is a slow and costly operation. If personnel can get ashore, the 75 pack howitzer, broken down, can be lowered by hand line and can be taken ashore. Under no circumstances should the 75 pack howitzer be taken ashore in vehicle landing craft. When the 75 pack howitzers are carried on personnel ships, the 105's should be loaded on the MT ships and should be brought in and replace the 75 pack howitzers at the very earliest opportunity.

7. G-4.

a. Individual equipment.

(1) Essential individual equipment must be complete and in the possession of the individual soldier prior to departure from staging areas.

(2) Several items of essential individual equipment were to be deck loaded at ports of embarkation in England and issued to personnel aboard ships. In no instance did these deck-load supplies arrive complete. In some instances they never arrived.

(3) The soldiers barrack bag as now issued is totally unfit for field service. The present standard Marine Sea Bag is exceptionally well fitted for field service and should be substituted without delay for the present issue barracks bag.

(4) The soldiers field shoes are too light and not sufficiently durable or weather-proof, and the composition sole is not adapted for the wear and tear of field service. The type of field shoes used during the last war should replace the ones now used.

(5) The field jacket, now in use by infantry and artillery units, is far inferior to the field jacket used by tank units. It is neither weather-proof nor sufficiently warm. The adoption of the field jacket, now in use by tank units, for all combat troops is recommended. The complete coverall with jacket, as used by tank units, is recommended for the use of all drivers of vehicles and motorcycles.

(6) Glistening articles of equipment, such as mess kits and tin containers for "C" rations, should be dull surfaced in order to render ground troops less discernible to enemy air and ground observation. For the same reason, the windshields of all motor vehicles should be capable of removal and storage within the vehicles.

b. Organizational equipment.

(1) Organizational equipment must be complete sufficiently in advance of embarkation to permit careful servicing of weapons and preparation of all equipment for loading.

(2) Gasoline which has lead added is not suitable for field ranges, Model 1937, with the available filters. The leaded gas and low octane British gas have been very unsatisfactory. The use of 87 octane blue Sunoco gasoline has proven most satisfactory since this gas has no lead additive. This gasoline should be authorized for use in the field range, Model 1937, until modified filters are available.

(3) Water-proof Casing for Radio Sets. Radio equipment could not be water-proofed in Operation TORCH. In many cases it became wet and failed to function after landing. Portable water-proof cases should be provided for radio equipment which must be landed over the beach.

SECTION III
BASIC AND SPECIAL TRAINING OF ALL INDIVIDUALS AND UNITS

8. G-1

The operation showed the [redacted] nation and training

[redacted]

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of regimental, bat[redacted] registration officers and non commissioned officers. This training should be under the supervision of a Division Graves Registration Officer.

9. G-3.

a. In spite of intensive, careful preliminary training, the execution of Operation TORCH indicated the great importance of reconnaissance, the proper use of supporting fires and the proper use of Fire and Maneuver.

(1) Although reconnaissance training has been continuously stressed in this Division constant training is required.

(2) Infantry weapons training cannot be overstressed. Casualties in the weapons units must be anticipated by providing many substitute gunners for all weapons.

(3) The operation re-emphasized the need for proper employment of Fire and Maneuver for infantry units. Small units must be aggressive and use maneuver for overcoming enemy defending groups. The maximum advantage must be taken of terrain to outflank enemy groups or to strike rapidly at the enemy's soft spots with the minimum exposure to hostile fire.

b. Special training. Special preliminary training must be conducted prior to embarkation on amphibious operations. These training exercises should simulate all details of the contemplated operation as far as possible. Every endeavor must be made to develop teamwork during the concurrent preliminary training of Army units (assault units, engineer shore parties, etc.) and Navy personnel.

c. Basic and special training of all individuals and units.

(1) All preliminary training prior to sailing in an amphibious expedition should be completed in sufficient time to permit a complete over-haul of all equipment used in the practice. Great care should be taken to ascertain the availability of replacement items prior to risking damage to vital equipment in an exercise. Where training is contemplated, training equipment should be made available and operational equipment should not be jeopardized.

(2) Physical hardness is vitally necessary to successful amphibious operations. Training immediately followed by a voyage will usually keep men aboard ships for a long period of time. This results in physical softening which can only be avoided by carefully planned exercise aboard ships.

d. Radio communication.

(1) Commanders generally lack appreciation of the capabilities of radio equipment furnished combat troops.

(2) Radio combat codes were too numerous and too complicated. Radio communication within this Division has been materially improved by use of prearranged message code for combat operations.

e. There were instances where it was neccessary to encode and decode voluminous messages. Some messages from higher and lower headquarters were received which were ineffective because of the delay necessary to decode them.

9. G-4.

a. Transport Quartermasters.

(1) It is essential that a Chief Transport Quartermaster be assigned for each Transport Division and that a Transport Quartermaster be assigned for each ship. At least one (1) additional Transport Quartermaster for each Transport Division should be assigned as replacement.

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(2) Transport Quartermasters must be carefully selected and trained. Training should be active and continuous. Personnel and Tonnage Tables for all units, down to and including companies, batteries, and separate detachments, must be accurately maintained at ALL times. Transport Quartermasters must be provided as far in advance as possible with ships' plans showing characteristics, profiels, and floor plans of holds for study and pre-loading plans. Transport Quartermasters must have opportunity to make physical inspection of assigned ships at least two or three days prior to commencement of loading. Actual combat loading of ships must be controlled by Transport Quartermasters to insure loading in accordance with established priorities.

b. Staffs.

Staffs, down to include battalions, should be continuously trained in supply and logistics by maintaining current Personnel and Tonnage Tables based on actual strength; combat loading tables of vehicles; movement tables, to include cubage and weight of organizational equipment, baggage and supplies; and equipment tables to insure all units being completely equipped at all times.

SECTION IV
TRAINING AND EQUIPMENT FOR COMBINED OPERATIONS

10. Amphibious operations require detailed planning and perfect coordination. They are therefore difficult. This training is further complicated by terminology and practices not normally encountered by Army personnel. Schools in amphibious operations are the only practical means of familiarizing all personnel with the technique of amphibious operations. This should include not only training of troops but it should include command post exercises in which all commanders and staffs who are to partake in the operation are actually present on the ground. The command post personnel of higher units was not present during the amphibious training which preceded TORCH Operation.

SECTION V
COOPERATION BETWEEN ARMY, NAVY AND AIR

11. Cooperation between the Army and Navy.

The one single factor which contributed most to the success of this operation was the joint planning in London where the Army Staffs and Navy Staffs worked side-by-side throughout the whole planning stage. The capabilities and limitations of each service were made known to the other with a result that the final plan as executed had not only the confidence of all but also the complete understanding of both services. This joint planning is considered essential for the success of any amphibious operation.

12. Cooperation between the Army and Air.

a. Cooperation between Army and Air is vitally necessary.

b. The Air Staff and Division Staff of Combat units must work out the tactical plan of operation of the ground elements. In Operation TORCH, Colonel Harold Fowler, A.F., was temporarily attached to Division Headquarters. He functioned as Air Advisor to the Division Commander and was most helpful in planning for and in securing air support during Operation TORCH. An Air Advisor should be provided units making the main effort.

c. The present prescribed system of securing air support through the higher echelons is too cumbersome and too slow. Some system should be provided which assures prompt air support against anticipated targets in the zone of advance of the major effort.

[redacted]

TERRY ALLEN,
Major General, U. S. Army
Commanding

HEADQUARTERS 53D SIGNAL BATTALION
APO 302

29 December 1942

[redacted] EQUALS BRITISH MOST [redacted]

SUBJECT: Lessons from Operation TORCH.

TO : Commanding General, Center Task Force.

1. In compliance with 1st Ind., Letter, AF Hq, AG 370.2 /054-C 16 December 1942, the following report, based on the experience of this organization in operation TORCH, is submitted.

2. Movement

a. Embarkation, Movement orders received from British Movement Control were not identical with authorizations from CTF Headquarters relative to the assignments of personnel and vehicles to transports and to the shipment of equipment. Last minute changes in unit embarkation plans were necessitated, resulting in motor convoys not moving on schedule, wastage of shipping space, and changes in the assignment of personnel to detachments.

b. Debarkation. Personnel from this organization were on the beach as long as 30 hours before the first vehicles and equipment were landed.

c. There were instances of equipment being delivered at the port of embarkation in good order which arrived at destination in bad order. Some of the equipment shipped was not received at destination. Guards and maintenance details should accompany each shipment of vehicles and equipment to give reasonable assurance of arrival at destination in good order.

3. Operations.

a. Efficient operations has been hampered by the following:

(1) Lack of sufficient platoon, company and battalion training.

(2) Lack of training with the headquarters being served

(3) Lack of sufficient training with some of the equipment being used.

(4) Lack of sufficient training with communication personnel of other units participating in the operation. (Link-sign procedure a specific case)

(5) Lack of information necessary to keep the situation posted on a map. (Unless well informed, both as to the tactical and the communication situation, communication personnel are unable to act with the initiative, speed and accuracy expected of them. It is believed that lack of information accounts for the loss of an officer and two men who unnecessarily entered a dangerous area while on duty in connection with the delivery of an important message).

(6) Necessity of improvising ways to accomplish mission due to lack of TBA transportation and equipment.

(7) Improper address on messages and lack of return address on envelope.

(8) Requiring message center to handle mail and local messages. See par 15 d (4) and par 16 d, FM 24-5

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b. ..l signal communication [redacted] assigned a distinguishing mark, and in general be given priority on roads. All messengers should be authorized to receive information relative to unit locations and movements. At times, units preparing to move have refused to divulge their next location to a messenger, resulting in the message center not being informed of the new location until the information had filtered down through the normal channels.

For the Commanding Officer

OSCAR L. PERKINS,
Major, 53d Signal Battalion,
Executive Officer

HEADQUARTERS, NINETEENTH ENGINEERS
APO 302, U. S. Army

29 December, 1942

Subject: Lessons from Operation Torch.

To : Commanding General, Center Task Force, APO 302, U. S. Army.

1. In compliance with letter, Allied Force Headquarters dated 16 December 1942, above subject, and 1st Indorsement thereto, Headquarters C.T.F., dated 20 December 1942, the following report is submitted:

2. Comments and recommendations relating to G-1 procedure:

a. The receipt of replacements immediately prior to operation presented difficult problems in administration, training and supply, that lower the efficiency of a unit.

b. Handling of serious disciplinary cases immediately prior to operation was difficult. In many cases charges had to be dropped, or action unduly delayed. Discipline within units thereby suffered through lack of machinery to properly care for such cases.

c. Communication equipment of an Engineer Combat Regiment is inadequate. In all actual operations of the regiment it was necessary to attach communication teams to the regiment. Such teams may not always be available. Radio communication is a necessity for engineer combat regiments.

d. A rigid control of occupied areas is essential to prevent sniping.

e. Recommendations:

(1) That units be allowed 5% overstrength in preparation for an operation, so that losses will not entail replacements in need of both equipment and training.

(2) That machinery be set up to take over unit disciplinary cases upon departure of unit for an operation.

(3) That T.B.A. be amended to authorize radios for an engineer combat regiment as set up in T/O.

(4) That plans for the control of occupied areas be made and published in advance and that necessary Military Police to accomplish same be provided early in operation.

3. Comments and Recommendations relating to G - 2 procedure.

a. During early phases of operation insufficient information of enemy situation and own troop disposition was disseminated to all units either for efficient liaison with headquarters concerned, or for planning future action or supply. Units on ships waiting to disembark were uninformed of the situation ashore.

b. Many more maps were issued than were needed or could be carried to shore by individuals. The handling of remainder of maps was made difficult primarily through lack of sufficient boxes or other material to crate and mark same. The distribution of maps on board ship was a difficult task with limited space available.

c. Recommendations:

(1) That information of enemy and friendly disposition be disseminated to all units during the operation as information becomes available.

4. Comments and recommendations relating to G-3 procedure.

a. The primary mission of this unit was not assigned until after unit had (partially) landed. This fact precluded preparation of detailed plans in advance and necessitated the formulation of plans after the unit's mission was assigned. Much time and efficiency were thereby lost. Proper disposition of regiment could not be completed until plans for the performance of assigned tasks had been made. Cooperation with other units was made more difficult because it had not been arranged in advance; and liaison during initial stages of a landing was difficult and in many cases impossible.

b. Planning for some parts of operation was not carried far enough; e.g., the operation of the Port of Arzew. Units involved in operation of port included 1st Division, representative of Port Operating Battalion, Engineer Shore regiment, Engineer Boat regiment, this unit, and navy. Much time was lost until port was placed under unified control, and necessary liaison with Naval Headquarters established.

c. Troops were unfamiliar with landing craft. More complete knowledge of them would have resulted in more efficient use and facilitate disembarkation.

d. Handling of landing craft was generally poor, and was not sufficiently directed. Casualties of landing craft were unnecessarily high. Many craft lay idle for long periods while troops waited for hours for facilities to land. Operators of landing craft were not familiar with the landing plan and were apparently given no specific mission.

e. Beaches were not marked at dangerous points for landing. Both personnel and vehicles were in some instances landed in deep water because holes in the beaches were invisible and unmarked.

f. There were insufficient landing craft for the expeditious landing of troops according to schedule.

g. No opportunity was available prior to operation to complete unit training in weapons, because of lack of time, ranges, and ammunition. Men were not familiar with AT mines, British explosive, Bailey Bridge, and other engineer equipment which would possibly be employed in the operation.

h. Recommendations:

(1) That plans be made sufficiently in advance to permit unit training or at least planning for specific tasks.

(2) That mission or probable missions be assigned to units sufficiently in advance to permit liaison and coordination with units concerned prior to start of operation.

(3) That plans be detailed enough to cover all phases of operation and all reasonable contingencies.

(4) That troops be given full opportunity to become thoroughly familiar with all weapons, equipment, and materials with which they must perform the operation.

(5) That operation of landing craft be placed under a single officer with means to control same; this officer to coordinate disembarkation with needs of Army Commander on the beach; and to insure maximum efficiency from craft.

(6) That landing craft operators be more thoroughly schooled in operation of craft.

(7) That a greater number of landing craft be available to take care of losses.

(8) That beaches be carefully marked to show good landing areas and danger spots on beach.

5. Comments and recommendations relating to T.- 4 procedure.

a. Loading of ships did not in general follow requirements for unloading priorities.

b. Unloading on beach lacked system in that little segregation was accomplished, either by unit or by type of equipment. In the case of unit equipment, this produced an additional burden on the unit in obtaining it.

c. Men carried too much equipment ashore on their persons. Weapons and additional ammunition made a tremendous individual burden. Men were thus unsteady and not ready for tactical action upon landing.

d. Sufficient attention was not given to spare parts for weapons, ranges, and vehicles in initial stocking of dumps. Many pieces of equipment remained idle for lack of spare parts. Some parts were not available prior to operation.

e. Recommendations.

(1) That loading of ships for initial convoys conform to unloading priorities and conditions rather than to most efficient loading.

(2) That unloading be planned and coordinated with a view to maximum segregation of equipment by unit and by type.

(3) That a careful study be made with a veiw to limiting equipment to be carried on person to absolute essentials required for the actual landing and immediate operation; and that additional individual equipment be unloaded as cargo, either immediately after troops, or with high priority.

(4) That units be given more time prior to operation to effect supply.

(5) That sufficient repair parts be furnished units for all equipment, and that such parts be given a high priority for stockage in dumps.

For the Commanding Officer:

ARTHUR J. LAZENBY,
Capt., 19th Engrs.,
Adjutant.

HEADQUARTERS
1ST ENGINEER AMPHIBIAN BRIGADE

December 30, 1942.

SUBJECT: Lesson from Operations "TORCH".

TO : The Commanding General, Allied Forces, A.P.O. 512, U.S. Army.

THROUGH: The Commanding General, Center Task Force, A.P.O. 302, U.S. Army.

I- AUTHORITY AND SCOPE.

In compliance with letter of your Hq. dated 16 December, 1942, on the foregoing subject, file # AG 370.2/054-c, the following special report is submitted covering in summarized form the observations and conclusions of this command with respect to the operation TORCH. The reports required by AR 345-105 have already been submitted. A detailed technical report is now in process of preparation and will be submitted at an early date.

II- PARTICIPATION IN OPERATION.

The extent of participation in the operation by this command was as follows:

a. The 531st Engr. Shore Regt. furnished a shore party of one battalion to each of the three regimental combat teams of the 1st Division, landing at Y Beach, Z Green and Z White beaches.

b. The 286th Signal Company provided a communication detachment of one Officer and thirty-three men to each of the shore parties in (a) above.

c. The 591st Engineer Boat Regiment furnished one reduced battalion as shore party for the Armored Command B, landing at Z Red and X beaches. It also furnished one battalion as hatch crews and unloading details for 10 of the 23 U.S.T. ships of the convoy.

d. The 561st Engr. Boat Maintenance Co. was attached to the U.S. Naval landing party and participated in their operations. In addition it furnished 36 landing craft crews to augment British personnel.

e. The Commanding General, 1st Engineer Amphibian Brigade with a small staff acted as Principal Military Landing Officer on Z beach when control of this beach was assumed by II Corps.

III- ORGANIZATION AND TRAINING.

a. The necessity for careful organization and thorough training of all elements was manifest. The need for thorough training of boat crews cannot be overstressed. Far too large a percentage of landing craft were left stranded upon the beaches, the majority of them due to improper boat handling, and to the fact that no adequate beach salvage sections were included within the British Naval beach parties. Boat crews must receive thorough training in night landings and in night operations by flotilla.

b. Adequate control craft with trained personnel must be provided for dispatching.

c. Beach parties must include salvage boats for recovery of beached landing craft.

d. All drivers of vehicles to be brought ashore from landing craft should receive training in driving vehicles through surf and deep water.

e. Hatch crews should receive [illegible] training in loading and unloading on the ship to which they are to be assigned, and should be embarked thereon. Hatch crews should be increased from 75 to approximately 125 men per ship for continuous efficient operation.

f. Shore parties were intially sufficient in size but became inadequate because of fatigue. Provisions should be made for their reinforcements after 24 hours.

g. Shore party equipment must be brought ashore early even at the expense of combat equipment. Bulldozers and beach road material must be available when the first wheeled vehicles arrive and trucks must be available when bulk stores begin to land.

IV- EQUIPMENT.

a. Landing craft. The British LCA's proved generally satisfactory when properly handled, though under-powered. The US LCI III proved superior to the British LCI II because of its greater carrying capacity and better retractive ability. A greater proportion of LCI's to LCA's should be provided. LCA's are not suitable for landing stores. The British practice of beach retraction by use of kedge anchors was again shown to be unsound. The greater proportion of craft stranded upon the beach were found upon recover to have anchor lines fouled upon their propellers.

b. Shore Party Equipment. Bulldozers with winches are essential. Two or preferably three per company should be provided. They should be diesel powered and waterproofed to 5 feet of water. Summerfield track proved very satisfactory for beach roadway.

c. Bridge equipment. The rubber float steel treadway bridge was used by the Armored Force in landing tanks and vehicles from "Maracaibos", and proved very successful.

d. Communication equipment. Wire equipment was generally satisfactory. Many failures in radio equipment occurred, principally because of lack of adequate measures for waterproofing for landing through the surf. The British WI8 radio set gave poor service because of minor mechanical failures.

V- CONTROL DURING LANDING OPERATION. The outstanding lesson to be learned from the operation is the necessity of unified control throughout all of its phases. In the present operation preparation of loading plans and the actual loading and unloading of ships was a responsibility of the British Army, control and operation of landing craft and beach party functions were responsibilities of the British Navy, while shore party operations, including handling of supplies in port were responsibilities of the American Army. Moreover control of the American Army functions was split between the 1st Division and the II Corps. The undesirability of such a division of responsibilities was clearly demonstrated throughout the actual operation. It resulted in inefficient operation and lack of control of landing craft, interference with ship unloading because of change in priorities, and serious failure in communication between ships and shore. In future amphibious operations Naval functions, whether British or American, should be restricted to the conveyance of the expedition to the point of disembarkation from ships, provision of the necessary protection and escorts, and operation under Army control of such large landing craft as may be provided. The American Army should assume complete responsibility for preparation of ship loading plans, for actual loading and unloading of ships, for operation and maintenance of small landing craft, control of all landing craft for all beach and shore party function and for emergency operation of ports subsequent to debarkation. The Engineer Amphibian Brigade is an organization trained and equipped to perform all of these functions, and should be charged with their execution under the direct control of the tactical commander.

HENRY C. WOLFE
Brigadier General
Commanding.

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HEADQUARTERS
48th Surgical Hospital
APO 302

December 23, 1942

Subject: Lessons from Operation TORCH.

To: The Commanding General, Central Task Force, APO 302.

1. In compliance with Letter, Headquarters, Allied Force, file AG 370.2/054-C, subject as above, dated December 16, 1942, the following report is submitted:

a. Prior to departure from staging area, two detachments consisting of six officers, eight nurses, and 20 enlisted men each, were detached from this organization and sent with other units. The organization, minus equipment, was transported on a third boat. Debarkation to landing craft was accomplished in an efficient manner, but the landing craft crew were not acquainted with the beach and as a result the personnel were landed over an area of about three miles. No equipment was unloaded with the personnel.

b. The first night was spent on the beach at a point not far from the place of debarkation. Protection was afforded by a machine gun unit by utilizing fox holes and slit trenches. Small groups were sent to assist the clearing station functioning in the city of Arzew (during the night), the main body coming into the city to take over the clearing station about noon the next day. The transfer was completed at about 1500 hours.

c. The Hospital equipment was not available so instruments were borrowed from the clearing station and British boats in the harbor. The supply of dressings, narcotics and sterilizing equipment was always inadequate until the fourth day when our equipment arrived. Some personnel of the organization were on duty as long as thirty-six hours without rest. The detached group, scheduled to support the clearing station we had taken over, arrived on the third day.

Criticism:

Lack of knowledge of the beach by the landing crew;
Splitting of personnel, resulting in shortage of surgical talent;
Failure to land equipment with personnel.

Recommendations:

That entire unit remain together, or,
That a surgical team be attached to a hospitalization unit of the organization and that this combination be used as was the clearing station in this operation.
That equipment be unloaded concurrent with the personnel.

CHESTER J. MELLIES,
Lt. Col., M. C.,
Commanding.

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HEADQUARTERS WESTERN TASK FORCE
APO #[redacted]

30 Dec 42

SUBJECT: Lessons from Operation TORCH.

TO : Commanding General, Allied Force.

1. Consolidated report of lessons learned from operation TORCH submitted herewith.

2. Report of Western Task Force attached as Inclosure No. 1.

3. Special reports of 3rd Inf Div (Brushwood Sub-Task Force), First Prov Brig (Goalpost Sub-Task Force), 2nd Armored Div (Blackstone Sub-Task Force) and XII Air Support Command are attached as Inclosure No. 2.

4. I have personally read all reports and lessons contained herewith.

a. Practically all of the defects mentioned by Sub-Task Force commanders resulted not from lack of forethought on the part of those planning the expedition, but on accout of lack of time, and owing to the necessity for security.

b. It will be noted that practically every branch, except the combat troops, considered itself slighted either in numbers or in vehicles. This will invariably be the case, because in a landing operation, fighting men must take precedence over everything else.

5. I am incomplete concurrence and recommend special attention to the report and lessons of the G-3 Section, Western Task Force.

6. The necessity for a special command ship with adequate naval and military communication equipment is a paramount consideration for future operations. This ship must not be capable of engaging in battle.

7. Finally, I believe the following points are the essence of successful amphibious operations -- surprise; speed of combat, once beachhead is gained; simplicity; no change in plan.

/S/ G. S. PATTON Jr.
G.S. PATTON, JR.
Major General, U.S. Army,
Commanding.

2 Incls.
Incl #1 - Report of Western Task Force.

Incl # 2 - Reports of Sub-Task Forces.

Consolidated report of lessons learned from the operation TORCH.

G-1 and AG

1. Torch operations revealed the following deficiencies from the standpoint of G-1 and AG Sections:

a. In the absence of Army graves registrations personnel, detailed plans and instructions to combat units, who had to assume the responsibility, were inadequate.

b. Insufficient administrative personnel, and in some cases none at all, accompanied the advance echelon. This made reports incomplete and late and since, in many cases, proper records were not kept, it was almost impossible to reconstruct the necessary reports.

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c. Detailed instructions on administrative procedures were not completely understood and in some cases, were not disseminated to the smaller units.

d. Lack of approved Tables of Organization or Tables of Allotment of Grades and Ratings prevented promotion of deserving personnel.

e. Delay in award and presentation of decorations and citations caused excessive paper work in tracing individuals, verifying facts, and securing necessary certificates.

f. Confusion in preparing safe arrival cards and lack of positive instructions for their dispatch resulted in a lowered morale among the troops.

g. Insufficient personnel and communications delayed delivery of mail both to and from the United States.

2. In correcting the above noted deficiencies, it is suggested that in future operations the following steps be taken:

a. Sufficient graves registration personnel should accompany the assault echelon. Where this is impossible, this function should be delegated to units of the assault echelon, who should be thoroughly trained for such service.

b. Sufficient administrative personnel must accompany the assault echelon to assure that correct reports are submitted. This is of greatest importance from a tactical as well as administrative point of view.

c. Clear cut interpretation of the requirements of all reports, regardless of how routine and obvious they may seem, must be established by the highest headquarters to which they are submitted. These instructions must then be disseminated down to and including the smallest units from which reports are required. To protect secrecy it may be necessary to issue these in sealed envelopes to be assimilated aboard ship. When possible, however, it would be more advantageous to hold joint discussions with the personnel concerned.

d. The Commanding General should be authorised to give temporary approval of Tables of Organization and grades and ratings for special units, pending final approval by the War Department. This should also apply where Military Areas and Districts are established subsequent to actual hostilities so that personnel could be assigned to these functions. This will permit parent organizations to drop such personnel and replace them by promotion and transfer. It is believed this would create a very good effect on morale.

c. A digest of current Army regulations, War Department circulars and Task Force policies on awards and decorations should be disseminated to all administrative headquarters prior to debarkation. This must specifically establish the administrative requirements in connection with the award and the presentation.

f. It is recommended that safe arrival cards be filled out in Staging Areas and mailed as soon as the Task Force arrives at its destination. While later reports will show that certain individuals were killed in the landing operations this policy would nevertheless work to the benefit of the majority. If safe arrival cards are withheld until casualties have been verified it would be better to discontinue the use of safe arrival cards entirely.

g. A thorough understanding of censorship requirements should be disseminated to all troops so that recensorship would not be necessary. Careful planning and the use of machine records in advance of operations should speed delivery of mail to troops after arrival. It is felt that an A.P.O. number could safely be given out before departure from the States [illegible] units on maneuvers within the Continental limits also with an A.P.O.

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1. Future planning and execution of operations.

a. Security measures recommended.

(1) That security control be established coincident with the initial planning of an operation.

(2) That a suitable Command Post with necessary guards, clerical personnel and telephone be established before a tactical staff is brought to Washington.

(3) That map reproduction be commenced far enough in advance so as not to endanger security.

(4) That reproduction facilities for the reproduction of photographs, charts and literature, be established completely under Army control.

(5) That all identifying insignia be removed from personnel and vehicles of tactical staffs and vehicles brought to Washington for operational planning.

(6) That greater care be exercised in telephone conversations especially long distance calls.

b. Preparation of necessary data.

(1) It is recommended that current data such as the M.I. Surveys and I.S.I.S. be reduced by the M.I.S., W.D., to the essential information required by the staff sections in a form which may be issued to troops.

(2) The value of terrain photographs of possible objectives as well as aerial photographs cannot be over-emphasised.

c. Organization.

(1) The absence of approved Tables of Organization for Prisoner of War Interrogation teams, Counterintelligence and Censorship personnel has proven a distinct handicap, absolutely preventing the promotion of deserving individuals or replacement of personnel. It is recommended that the T/O for a Task Force Headquarters, now approved by the Chief of Staff as a guide only for limited distribution, be approved as standard and that similar tables be prepared for a reenforced Corps operating alone.

(2) Military interpreters are essential for troops operating in a foreign country. Civilian personnel employed locally as interpreters cannot be adequately checked for security nor can take the place of officers who must act as liaison officers as well as be able to negotiate with officials of the country in which they are operating. Prisoner of War interrogators cannot perform these duties as well as those of interrogation.

(3) It is also essential that Counterintelligence personnel and Censorship personnel speak the language of the country. It is particularly important that Counterintelligence personnel be selected for general background rather than for police experience.

(4) A Pyschological Warfare Unit such as the unit under experiment at Fort Monmouth which combined both the personnel and material necessary for Propaganda and Public Relations would have been of extreme value. The radio set installed on the USS Texas by the Signal Corps and operated under control of G-2 was extremely valuable during landing operations, but could not be disembarked.

(5) Ground personnel trained in the tactical interpretation of aerial photographs should be included in the Air Corps photo interpretation sections.

(6) Under no circumstances should a Command Post of a combined force be placed on a man of war having a combat mission.

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(7) Corps and higher authorities should be provided with a translation section familiar with enemy military terminology.

2. Individual and organizational equipment.

a. Without a Table of Organization, Counterintelligence, Censorship, Prisoner of War interrogation and interpretation sections have no means of procuring or replacing either organizational or personal equipment.

b. Broadcasting equipment is considered essential for a Task Force Headquarters.

c. Ample transportation should be provided for Counter-intelligence personnel.

3. Basic and special training of all individuals and units.

a. Officers who are not highly trained in the tactical doctrine, organization and equipment of our own army, or who have not had extenisve duty with troops, are of no value to the G-2 section.

b. Divisional staffs should be trained in the proper use of special intelligence sections such as Counterintelligence and Prisoner of War interrogation groups.

c. Prisoner of War interrogator teams should receive special training at Military Intelligence Training Center, in the identification of enemy units, enemy organization, armament and equipment. These teams should be assigned to a Division in sufficient time to receive training in the Division before departure over seas, and to become familiar with the personnel of the Division with whom they will operate.

4. Training and equipment for combined operations or other special operations.

a. G-2 personnel should be trained in intelligence methods and staff procedure of our Allies for combined operations.

b. Special liaison personnel should be provided for any combined operation so that tactical staffs will not be reduced by the necessity of furnishing liaison officers.

5. Cooperation between Army, Navy and Air.

a. In order to reduce duplication of effort all intelligence activities should be placed under the direction of a single G-2. An intelligence section should be so trained as to insure the mutual flow of information. In order to insure this each must be familiar with the intelligence methods and requirements of the other.

b. In landing operations it is essential that Prisoner of War interrogators and Counterintelligence personnel be included in the initial wave.

1. When such an operation is decided upon, the commander should be assigned to his mission and allotment of forces at least six months prior to the execution of his mission. He should be the supreme commander and the navy and air commanders should be members of his staff, with power to provide the necessary personnel and equipment needed for both the combined training and execution of the mission. The force allotted should be quickly assembled into a training area suitable for field work and in proximity to the area suitable for the amphibious training. The ships required for the sea passage and landing should be available at an early date after the arrival of the force in the training area. A continuous program of loading and beach landings should be carried on to provide a thorough training of landing craft crews, shore parties, sea scouts, ship to shore communications, naval gun fire support, aircraft support, carrier based, and air ground parties.

2. After the plans of subordinate commanders for their respective attack have been approved by the Task Force Commander, based on his directions, repeated maneuvers embodying ship to shore to objective must be carried on until they approach perfection in timing and execution. Maps of the actual objectives, with deleted names (for secrecy), must be provided for the planning of all commanders to include platoons. When, after embarkation, the actual map of attack is issued, all will be familiar with their sectors.

3. Mistakes, omissions and suggested corrections.

a. Less than three months elapsed between the assignment of the mission to the Task Force Commander and the landing on a foreign shore. During that period the plan and allotment of forces available was changed several times, necessitating a serious delay in crystalizing the plan of attack.

b. This delay in "fixing" the forces available made it impossible to assemble the force for combined ground training. Supporting air, either naval or army, was never available for the few landing exercises that were held.

c. In many cases units arrived in training and staging areas just prior to embarkation. The sub-force commanders had no opportunity prior to sailing to train or evaluate the units which he was to lead ashore.

d. Some staff sections were not furnished with their allotted quota of officers and enlisted men until shortly before departure. The result was that these new arrivals were of no value to such sections which had no time to initiate the new arrivals into the operation.

e. Units allotted should be filled to their T/O strength and officers and NCOs should not be transferred out of the force. There is never sufficient time to "break in" new leaders.

f. The Task Force Commander and the Naval Force Commander should not have their joint headquarters on a naval vessel that may be required as a unit in a naval engagement. Such was the case in this operation, resulting in the cessation of shore to ship and ship to shore communication with landed army units. The army commander must have adequate channels of communication to his immediate subordinate elements entirely independent of naval requirements.

g. Combat loaders were not available to the TQM's, with few exceptions, until shortly before sailing date. Ship specifications were in gross error as to both personnel and vehicle capacity.

h. The present combat loader carries too few landing boats, necessitating a very complicated plan of such landing boats from ship to shore to other ships to complete the successive assault waves. If new type combat loaders are not built

which will provide the unloading of each ship by its own boats, then additional ships carrying only landing boats and crews must be included in amphibious operation convoys. Such would not only help the problem of providing the required boats for assault waves, but would provide a reserve for the boats that remain on the beach stuck or destroyed.

i. Navigation, by ship captains, to assembly areas was faulty, in one instance five miles from the transport area and also entirely too far offshore. Many ships in the Fedala landing force were entirely out of position at the time set for loading the boat waves, necessitating a revamp of the boat employment plan in order to carry out the mission of Bn CT's for arrival on their beach at appointed hour. This caused a delay of 45 minutes in their assigned H hour. Transports should be moved in shore as rapidly and progressively as possible, as the shore assault reduces the effect of enemy shore batteries, to shorten the time lag of reloading returning landing boats for successive waves.

j. Ship crews were in some instance poorly trained, and coxswains were as a whole very green and inexperienced in handling landing craft under surf conditions.

k. Landing Craft Commanders errored in their navigation to beaches and in two cases this proved extremely disastrous.

l. Naval gun fire should not be fired on prearranged time schedules except as a shore barrage previous to any troops landing. Naval gunfire missions should be "on call" from naval gunfire support parties.

m. Training of such Task Forces should include subjecting troops to naval gun support and over-head artillery and machine gun fire. The necessity for including such training was made apparent in this operation. Troops under over-head naval gunfire became confused and stopped through inexperience when subject to close-in bursts.

n. Naval air support is extremely essential and more effective against shore installation than naval gunfire particularly on shore batteries and field artillery. In this operation naval air support was practically perfect, through air ground support parties requests.

o. Daylight landings are too costly and will be successful only against weak or no opposition although landings before daylight entail much difficulty in loading landing boats and navigation beaches, it assures surprise and reduces casualties.

p. Ground training must provide the maximum of night problems to effect confidence in clearing the beach and regaining lateral cohesion in the assault of the objective.

q. Troops in the assault waves of an amphibious operation should go in with light equipment in order to move rapidly across a sandy beach and continue forward in extending the beach-head. The present field equipment is much too heavy to permit rapid movement over any prolonged period and too bulky to permit proper use of life belt.

r. Incendiary bullets, fired by attack aviation, were more effective than bombs against motor columns and grounded aircraft.

s. In some cases new type weapons, such as the Launcher, Rocket, M-1, were delivered to units during the final loading. Intensive effort was made to familiarize units so equipped enroute, but the powers and limitations of such weapons were actually unknown until tested incombat. Machine guns were received on the dock improperly or faultily assembled and failed to function in combat.

t. The failure of motor equipment with radio installed, to arrive until loading was in progress, with the necessary

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G-4 SECTION

1. The following comments, observations, and recommendations are submitted for the purpose of improving the preparation and execution of any future similar operation. Many deficiencies noted here may have no bearing on such a future operation where the preparation time element is not so pressing.

a. Future planning and Execution of Operations:

(1) Specific ships to perform a combat loaded mission should be selected and assigned to sub-task forces as early as possible before S day, and not later than six (6) weeks prior to S day; and detailed ships' characteristics and plan data forwarded to the proper sub-task force commanders so that tentative loading plans can be made. As soon as practical after ships have been assigned, the Transportation Quartermaster for each ship should be sent aboard, whether or not the ship is at or near the port of embarkation, to check ships' characteristics against the tentative loading plan, and to check gear, numbers and types of landing craft, etc., of the assigned ships.

(2) Transport Quartermasters should be furnished the cubage (cubic dimensions) and the weight of individual packages of 30 day maintenance supplies of all classes, and the overall cubic dimensions of all standard and special vehicles and other odd types of equipment, at least one month prior to S day, so that the loading plans can be definitely outlined as early as possible.

(3) If authority is delegated to sub-task force commanders to make their own assignments of their units to their allotted ships, a limiting date, not later than three (3) weeks prior to S day, must be established by the Task Force Commander, after which no changes in assignments will be made in order that depots might have a minimum of two (2) weeks for properly marking supplies with proper shipment numbers and consign and move them to the correct address at the Port of Embarkation. A berthing plan for ships, based on port facilities and the sub-task force organizations must be made as early as practicable after ships have been assigned to sub-task forces, in order that depots might forward supplies and equipment to the correct location within the area of the port's utilities.

(4) At least one (1) month prior to S day of an initial combat loaded convoy, the Task Force Headquarters should establish a Task Force Liaison Headquarters at the Headquarters of the Port of Embarkation, to coordinate with the Port and to supervise the execution of the embarkation plan. Personnel assigned to such a headquarters should be thoroughly familiar with the plans of the Task Force Headquarters and with the facilities and operations of the Port prior to the beginning of the execution of the embarkation plan. The Liaison detail should include representatives of G-4 (in command of detail), Adjutant General, G-2 (Security Officers) sections, and representatives of the Special Staff Sections of supply services to include the Air Corps. Representatives of the G-4's sub-task force commanders should also be included within this liaison detail, exclusive of Division Transport Quartermasters and individual ships' TQM's.

(5) The general supply plan drawn up for this operation has proved sound. It is believed that it would have taken care of any situation that might have developed on shore. However, in view of the necessity of the Army to care for many hundreds

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of naval survivors from transports sunk off shore for Class II supplies (clothing, blankets, etc.), the 30-day maintenance of Quartermaster Class II supplies could be increased by about 50%, to insure sufficient to cover such emergencies.

(6) The proportion of the G-4 section of Task Force Headquarters accompanying the D Convoy should have been much larger than that sent with operation TORCH. A large percentage of the initial functions of such a headquarters, once beach heads have been established, are G-4 functions and cannot adequately be handled by two officers and one non-commissioned officer.

b. Individual and Organizational Equipment:

(1) Field Artillery --

(a) The panoramic sight bracket of 105 howitzers is unnecessarily high, exposing the gunner to small arms fire. On present models the panoramic sight bracket shaft should be shortened by seven inches; in new manufacture, the left front armor should be raised the same amount.

(b) The reserve ammunition, stored vertically along the sides of the body of the M7 carriage, extends above the side of the body, exposing the primer end of the rounds and making them vulnerable to premature discharge if struck by small arms fire or shell fragments. The side armor on present models should be raised by welding on a strip of armor plate; in new manufacture, the 10-inch cut-away on the sides should not be made. The sides were originally designed with this piece cut away to facilitate resupply of ammunition over the side. However, this advantage is outweighed by the disadvantages of the increased jeopardy to the howitzer and the crew.

(c) One 105mm Howitzer on M7 carriage was put out of action by having the forward end of the recoil cylinder punctured by small arms fire. An armor plate shield should be installed to protect the forward end of the recoil cylinder.

(2) Coast Artillery -- Multiple gun carriage T-28, E-1, half-track, considered very effective against low flying planes and dive-bombers. It is credited with 9 planes.

(a) At time of receipt, two lock frames of 37mm gun were found broken. Subsequent firing broke others.

(b) Loading trays were not all interchangeable.

(c) The adjustment of the equilibrators was difficult, probably due to the weight of the two added .50 caliber machine guns.

(d) Control cables from the central control box to the sighting mechanism are too short, causing the cables to bind and making the setting of leads difficult. Cables should be lengthened.

(e) Position of the 37mm ammunition chests is such that rapid fire is difficult.

(f) A shield should be provided for the gunners.

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(g) A light forward area sight should be mounted in the present sight telescopes. This would facilitate picking up the target; also firing in case the central control box became inoperative.

(h) For dual purpose AA and AT firing, the mount should permit a minus elevation of several degrees.

(i) Spare parts were insufficient. One 37mm gun spare parts kit should be provided for each gun carriage and one spare 37mm barrel should be supplied for each platoon.

(j) Approximately 15 of the 78 carbureter floats received have rusted through, putting the half-tracks out of service until the floats could be repaired by soldering. This repair increased the weight of the float and affected the performance of the vehicle. All carbureter floats should be of non-corrosive material.

(k) Two half-tracks became casualties because of the shearing off of the short pinion shaft on the differential.

(l) Much trouble was caused be leaking oil cooler gaskets, apparently due to poor machining of the castings. Oil leaks also occurred between the oil cleaner and the crankcase. Action should be taken to eliminate the cause of oil leakage.

(m) Two timing chain houses cracked.

(n) Some vapor locks developed. Fuel systems should be modified to eliminate vapor lock.

(3) Signal Corps --

(a) The quantity and variety of dry cell batteries required for radio sets creats a very serious supply problem in landing operations. In such radio sets as the SCR-536, 511 and 284, where a single dry battery will last only from four to eight hours in continuous operation, the quantity of batteries required for each set soon becomes very large as the time of operation is extended. This problem may be alleviated by the adaptation of all similar sets to use a single standard dry cell battery; more extensive use of hand generators; more extensive use of vehicle storage battery power; the use of larger, more efficient, although heavier and bulkier, batteries; design of a small, light, rugged storage battery.

(b) Medium powered vehicle mounted radio sets should be provided with long antennas which can be set up to increase the range of the sets in non-mobile operation. The flat top antenna equipment provided in the SCR-193 is not adequate to cover all frequency ranges and equipment should be provided in the SCR-299 for the use of a flat top antenna similar to that provided in the SCR-188. Attention should be called in instructions to the fact the antenna loading unit on the transmitter of radio set SCR-299 can be by-passed to use a long flat top or doublet antenna.

(c) Additional tuning units for radio set SCR-193 should be provided in limited quantities in the Division and higher units so that these sets may operate in special missions with SCR-299 and SCR-284 on frequencies outside of their normal operating [redacted]

(d) [redacted] switchboard slightly larger than the BD-72, yet smaller than the BD-96. Switchboard BD-91 should be issued in replacement. It is believed that this board could be issued for the replacement of a larger number of switchboards BD-72 and for a smaller number of switchboards BD-96, with a consequent increase in operating efficiency and reduction in type of equipment.

(e) A Parts Kit should be standardized for the installation of radio set SCR-193 in truck, 1/4 ton, 4x4. This installation requires the use of a 12 volt ignition system, identical to that already standard in the truck, 1/4 ton, 4x4, amphibious. Special installations of this type were used in operation TORCH and have proven very satisfactory. Such an installation presents the best means at present known for getting a completely self-contained medium power radio set and transportation ashore.

(f) A Parts Kit and instruction should be standardized for installation of radio set SCR-299 in car, 1/2 track, M-3, or a similar vehicle. Such installations were specially made for this operation and proved highly successful.

(g) When landing operations are contemplated in areas where commercial telephone facilities are available, equipment should be provided in Signal units of Division and higher headquarters for the repair and utilization of open wire and cable telephone facilities. Existing facilities can usually be repaired and put back in service for military use much more quickly than new lines could be constructed. This equipment should be carried even at the expense of field wire materials and equipment.

(4) Engineer Corps --

(a) Generally, engineer, individual, and organizational equipment was satisfactory. The advance planning included items to meet any eventuality. This naturally necessitated the inclusion of some items later found not to be needed under the conditions encountered.

(b) Engineer supplies were combat loaded on a basis of a greatly modified 30-day supply of normal maintenance items. Packages were loaded not to exceed 100 pounds. This weight actually should be kept to a maximum limit of 75 pounds if manhandling is to be the only source of transportation.

(c) No engineer material should be packed in either corrugated or cardboard containers. The present system of tacking packing slips on the outside of boxes is decidedly unsatisfactory. Slips are either torn off boxes or deliberately thrown away after unloading and before reaching the consignee, thereby leaving him with no knowledge of the contents. It is believed that some system of box marking should be developed to identify numbered packing slips. A numbered copy of the packing slip for each numbered box should be forwarded to the Supply Officer who is consignee.

(d) All organizational sets such as, demolition kits, carpenter sets, etc., should be boxed complete and shipped as a unit.

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(5) Ordnance - (EQUALS BRITISH [redacted]

(a) Reports from various units connected with the landing operations disclosed that there were no functional failures with the M1 rifle; that troops engaged in landing operations should be thoroughly trained in the care, cleaning and functioning of the M1 Rifle. Troops which had oiled their rifles previous to debarking encountered difficulty with stoppages due to the combination of water, sand and oil mixing into the mechanism of the rifle, 50% of these stoppages could be prevented by further instructions in the care and cleaning of the weapon.

(b) Results of inspection of 4096 helmets, steel, M1, show 405 were defective due to cracking of steel shell. Four general locations of cracks; two in front, one over each eye. Two in rear, generally diagonally opposite those in front; extending upward from the brim to the crown. No indication of abuse or rough and unusual treatment. Helmets have been used as wash basins and seats by individuals. This use does not appear to be the cause of cracking, since many of the defective helmets had not been used for either purpose and were new in appearance and condition. No apparent defect in manufacture except that all cracks are in one or more of the above locations.

(c) Many reports were received that dirt and sand on face of bolt of sub-machine gun, .45 cal. M1 frequently prevented bolt from closing completely, thereby causing misfires. Sub-machine gun is an unpopular personal weapon due to its weight and feeling that it prevents or handicaps individuals in performance of their duties. This comment was made by Military Police; Officers on duty at Docks and Railroads; personnel carrying and operating crew-served weapons such as Rocket Launchers, M1; combat Officers; and Staff Officers.

(d) The Launcher, Grenade M1, is reported to be essentially valuable against grouped personnel and crew-served weapons at ranges up to 100 yards. Duds occur when grenade strikes soft impact area. Tank ran over one grenade. Tank was stopped and abandoned. Four tanks hit at ranges of 50 to 100 yards. Three were abandoned, one withdrew. One accident in training has been reported. Due to improper care and cleaning, accumulated dirt caused tail assembly to bind. Grenade burst about 10 feet in front of firer, injuring four men. Water does not impair effectiveness of ammunition.

(e) One hit with the Launcher, Rocket M1, was recorded on a tank at 150 yards. Tank surrounded by dust and fire and withdrew, It is effective against personnel, a mortar crew being killed at 400 yards. Duds occur when projectile strikes soft impact area. Water does not impair effectiveness of ammunition. Improvements recommended include carrying sling; protection for firer against burns from back-blast; ammunition carrying bags.

(f) Mechanics should carry 15 - 20 pounds hand tools, light machine tools and inspection gauges on board transports. It is not contemplated that mechanics carry these tools when marching, but they should not be separated from them.

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(g) On medium tanks, M4A1, 15% of old type fuel pumps failed in first month. Failure was due to faulty seal, loss of prime, galled vane and twisted shaft.

(h) Organizational tools frequently did not accompany organizations, or were not unloaded by this Port. Special repair tools were not available to maintenance units before departure.

(i) Organizational spare parts were not supplied ordnance maintenance units before departure.

(j) Organizational vehicles were rifled and detachable parts stolen enroute.

(6) Quartermaster --

(a) It is believed that the present type field jacket is not lined with heavy enough material to give sufficient warmth. Lining should be material of about the weight of an army blanket.

(b) The 5-gallon drum with handle for gasoline, diesel fuel, and water has been entirely satisfactory. The 55-gallon drum has likewise proven very satisfactory.

(c) The thin, tin, square, 5-gallon oil cans in cardboard boxes have proven very unsatisfactory except when they were crated. They were frequently smashed in the rough handling received in unloading from ships and reloading on trucks and railway cars. Loss of oil in this particular type of container is estimated at 25%. When crated in wooden crates, the loss was negligible.

The heavier cylindrical 5-gallon oil cans have been entirely satisfactory to date. It is recommended that this type of can be used to the exclusion of the square can. It is further recommended that a system of standard colours for the cans be used to designate different weights of oil as: Yellow for S.A.E. 10, green for S.A.E. 30, red for S.A.E. 50. This system is used in part but should be used throughout.

(d) Containers for Universal Gear Lubricant and Greases are satisfactory. However great difficulty has been experienced in locating and segregating the small crates of grease, water pump, No. 4. It is recommended that the boxes of 12 or 24 one-pound cans be given a distinctive color marking, and that the cans of Universal Gear Lubricant be of a different shape or have a distinctive marking so that it will be readily recognised as lube and not oil .

(e) It is further recommended that neither the refiners' name nor the trade name of the product be shown either on the sides or the tops of containers of oils and greases. This space can be better used for large, clear markings indicating contents. The refiner's name and batch number can be stamped or pressed into the bottom of such containers; this information is desired only when check on the quality is necessary.

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(7) Medical --

(a) Medical equipment and supplies of medical units that accompany advance troops should be lighter in weight and made more portable by hand.

(b) The present ambulance, 3/4 ton, 4x4, has not been entirely suitable for use on sandy terrain. Efforts should be continued to devise some type of ambulance of low silhouette and better traction.

(c) Halazone tablets should be issued in sufficient quantity to last ten (10) days. Lyster bags should be landed with troops not actually engaged in beach fighting.

(8) Chemical Warfare --

(a) It is recommended that a light weight gas mask, similar to the M1 Civilian Mask with a light weight rubber of impregnated leather facepiece be developed especially for landing operations, to be carried enclosed in a vinylite or similar synthetic sack with quick opening and closing arrangement to give ready access to the mask. The waterproof sack should be carried inside the carrier and should be usable many times. A ten percent combat replacement of these masks to be by combat loaded ships.

(b) Landings should be made with impregnated protective clothing (wool or cotton, according to climate), worn by all ranks. Shoes should be impregnated shortly before landing. Such clothing protects the wearer against rain better than ordinary clothing; protects against vermin, and given a high order of protection against possible use of gas by the enemy.

(c) Ointment, protective, M1, and Impregnite, shoe M1, should not be issued to the individual but be held by company and similar unit supply officers, for issue when necessary.

(d) Some drums of Agent, demustardising (bleach), have rusted through approximately sixty (60) days after delivery to Port of Embarkation. It is recommended that the inside and outside surfaces of chloride of lime drums be treated to render them resistant to corrosion. It is recommended that chloride of lime not be issued to troops prior to embarkation but be carried with supplies for monthly maintenance and issued after units have debarked.

(e) Poor position of installing of the Apparatus, decontamination, 1½ qt., on vehicles resulted in loss of decontaminating liquid due to open valves. Numerous apparatus installed are improperly located and could not be reached if it were necessary for a vehicle driver to decontaminate his way out of a vehicle. Standard locations in all vehicles should be determined.

(f) Curtains, gas proof, should be deleted from T/BA of combat units. The extra weight and space assigned to this item does not warrant its being carried by fast moving troops.

(g) Generator, smoke, vehicular, M1. Due to mechanical difficulty in installing and servicing, it is believed that this should no longer be T/BA equipment. M-15 explosive smoke grenades should be provided instead for all armored and motor units as well as for tank destroyer units.

(h) [redacted] HS vapor detector should not be taken during landing operations.

(i) Recommend that T/BA allowance of Sacks, gas resistant, be cut in half; also maintenance figures. Packing should be improved to prevent breakage of crates. Approximately two-thirds of sacks received were packed in too light a container. Recommend that this item be held in depot storage until needed.

(j) Recommend that a complete unit of maintenance, gas mask repair parts, for 200 masks for 90 days be packed in one box complete as a unit.

(k) Present flamethrower, portable, M1, too cumbersome and necessary fuel oil, hydrogen, nitrogen, further complicates supply problem for fast moving troops required in a landing operation. It is recommended that a simple, easily portable flamethrower be developed similar to a large Roman candle, to be used once and discarded. Such a flamethrower should have a range not less than 50 yards and weigh not more than 25 pounds.

(l) Fog oil drums should be more plainly marked with some distinctive marking to distinguish them at a distance from gasoline and similar drums. Also, a better grade of paint and larger letters be used for marking drums so that markings will not be obliterated due to weather and rough handling.

(m) It is recommended that Respirators, dust, M2, be packed in a manner similar and equal to service gas mask. Present package does not withstand weather. The M2 should be issued to replace the M1 as soon as available.

(9) Miscellaneous --

(a) The present types of landing craft (LCP's, LCV's, and LCM's) are not of sturdy enough construction. Many were put out of commission during the first and second days of the landing by contact with underwater rock formations. Many naval officials concurred in the opinion that they were not built strongly enough.

(b) It is believed that continued efforts should be made to modify the field range, M1937, so that less clogging of feed lines and burners develops when using leaded gasoline. It is not practical to carry unleaded gasoline as an additional item of supply, so this range should be made capable of using 80 octane leaded gasoline without the present difficulty encountered.

c. Basic and Special Training of all Individuals and Units.

(1) It was apparent during the early days of the operation that the individual soldier as a rule had not been properly trained in the care, cleaning and preservation of his individual clothing and equipment. While this matter is entirely a command responsibility, appearances indicate that more time should be spent on this subject in order to reduce the quantity of replacement items drawn from reserve stocks.

(2) Many units equipped with new and different types of T/BA equipment just prior to embarkation had no opportunity to become familiar with such items before debarkation. Some instruction was given enroute, but this was not sufficient to get efficient results out of such items.

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(3) All troops need more training in the handling of supplies: Many officers and non-commissioned officers with supply functions were not familiar with standard supply channels, nomenclature, installations, nor the technique of handling classes of supply.

d. Training and equipment for Combined Operations or Other Special Operations.

(1) The need for much more amphibious troop training was apparent. Training in the actual handling of supplies across beaches, training of shore parties and beach parties in conjunction with troops and their supplies, and training in the involved communications system of a landing on a hostile shore must be emphasized and carried out under as near as possible combat conditions day and night as is possible.

(2) There is a definite need for some type of small craft capable of dragging beach landing craft back into the water so that they may be put back into operation and service. Many craft were beached by the high swell and breakers and were not recovered in time to prevent complete destruction by pounding surf. Such a recovery craft could have saved many craft for unloading of vessels.

(3) Further familiarization with and training in the application and use of the technique of waterproofing of all vehicles and the "blue-sealing" of tanks is necessary. Drivers and crew members must be instructed in the putting on and taking off of elements of the above to preserve and protect vehicle before, during and after the necessity for this protection.

e. Cooperation between Army, Navy and Air.

(1) Any indications of lack of cooperation among these services can generally be attributed to lack of knowledge on the part of many officers of all the three services as to the duties and responsibilities of their own service, and the duties and responsibilities of the other services.

(2) The subject of Amphibious Operations, beginning with the initial planning stage and including all phases of operations on hostile shores that are joint Army, Navy, and Air, should be covered exhaustively in all service schools to include the Command and General Staff School. It is considered advisable to expand the separate Amphibious Force C. & G.S . course given briefly at Amphibious Force Atlantic Fleet Headquarters that included details of training, planning, planning and coordination among services, necessary to the execution of such an operation. The Transport Quartermasters' School likewise should be expanded to insure that each organization has personnel familiar with these very special duties.

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ENGINEERS

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1. The commanding Officer of shore party troops should be a member of the staff ofthe Sub-task Force Commander. This is essential since he must be assured of certain equipment and that essential personnel and supplies be loaded on the combat loaded vessels where they will be readily available during the landing operation.

2. The shore party commander and his staff should be put on the beach early in the operation in order to coordinate distribution of personnel between beaches, as well as eliminating particularly dangerous and impossible beaches.

3. In this operation each shore party company was allowed to take ashore two bulldozers. This number should be increased to at least 3 or preferably 4 per company. These vehicles proved invaluable in getting vehicles across the beach and up on ground where they could operate under their own power.

4. There were four amphibious tractors alloted per company. This number is sufficient but should not be reduced. These special vehicles were of great help in pushing broached lighters off the beach.

5. There must be more careful design of beach markers. Also, it is essential that beach markers and lights be loaded in transports where they are readily available. During this operation the transport QM elected to store them where they could not be reached on the morning of the landing.

6. The thompson sub-machine gun is an unsuitable arm for Officers and Non-commissioned Officers ofthe shore party. It is impossible to work at times in surf 3 or 4 feet deep hampered by this weapon.

7. Wheeled vehicles and even full-track vehicles found difficult going in the soft sandy beaches. The first boats should carry rope nets or strong woven wire so that shore party could provide traction on the soft sand.

8. MAPS

a. Too many types of maps were made, resulting in a voluminous issue to individuals and sections who found little or no use for most of the types received. Fewer types would lessen unnecessary work and duplication and would facilitate distribution. Some photo maps were of poor quality and the best use could not be made of them. Landing maps 1/25000, prepared by Beach Erosion Board were not used to any extent due to lack of planemetric and topographicdetails inland. Largest demand was for Tactical Map, 1/50000, Road Map 1/100000, and town plans.

b. Recommend that in future operations:

(1) Cases and packages of maps not to exceed 100 to 125 lbs.
(2) Sheets be of uniform size.
(3) Size be such as fits presses of Engineer Topographical units.
(4) Town plans be provided in same quantities as tactical maps.
(5) Photo maps be provided at scales 1/10000 to 1/15000.
(6) Air photos be provided, one per company.
(7) Road maps 1/1000000 be provided, one per officer and one for each vehicle.

(8) General staff sections should receive wide coverage but individual officers shoud get same distibution as for normal troop issue.

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MEDICAL.

1. Collecting and clearing elements of medical battalions should be landed as soon as possible after beaches are secured.

2. All enlisted men of attached medical troops should be equipped with a lighter type of the present stamping device to imprint the data from the identification tag on the emergency medical tag.

3. Before ships of an assault convoy leave the "Transport Area" the Navy should furnish the Army Task Force Commander with accurate information concerning casualties being evacuated by the Navy to the Zone of the Interior. This procedure is absolutely essential in order to record casualties in proper category of killed, wounded or missing.

4. Some type of litter, such as the Stokes, should be provided on shore which will permit quick and safe transfer to the ship.

5. Blood plasma proved to be exceedingly valuable in the initial operations. In one instance it is estimated that at least twenty lives were saved by its immediate use when approximately 400 casualties were admitted to a clearing station during a two hour period.

6. The type of electric hand lamp used by the Navy was found to be very valuable for use in Army medical installations. The following is a suggested recommendation for the distribution of this type of lamp:

Two per battaloion medical section
Two per regimental headquarters medical section
Two per collecting company
Six per clearing company

7. Half ($\frac{1}{2}$) grain of luminal was given to each man debarking during the assault phase. A larger dose would be excessive for some individuals. Practically no seasickness resulted in the landing forces going ashore in landing craft. The half grain of luminal may have been the deciding factor although further experimentation is recommended.

SIGNAL.

1. Message Center personnel must be thoroughly instructed, and seasoned as a team, in message center procedure prior to the operation. A lack of thoroughly trained select personnel will render any communication system worthless. There has been a tendency to underman message centers, and the best fitted officers and men have seldom been trained in this work. The traffic manager and his staff in any civilian communication system are the key operating group of the system. Likewise, a well trained message center is the key to successful military communications. It must be large enough to handle its traffic without borrowing personnel from other communication activities. The grades and ratings alloted must be sufficiently high to attract and hold the best available personnel for this most important mission.

2. Operational experience has proven that seven (7) commissioned officers are required as a minimum to operate one echelon of a Corps Message Center in the field on a twenty four (24) hour basis. If more than one echelon must be operated, the number of officers required will be increased accordingly. The normal corps operates at least two (2) echelons.

3. Radio net Control Stations of the Landing Force Command nets should not be on a battleship. In addition to the danger of losing such stations if a battleship is involved in a naval fight, each such engagement causes interruptions in radio channels. This is due to radio sets being sensitive and easily jarred out of adjustment, or even made unserviceable by the shocks of hits on the ship, and by the effect of the firing of the ship's own guns. The radios cannot operate during the periods in which the ship is engaged in battle.

4. Sub-Task force communication personnel should come from the Signal or Communications unit ofthat particular force. Signal detachments from outside units, no matter how well trained, cannot be sufficiently familiar with theorganisations they serve. Thus they lose the advantage of special training they might have had in landing operations.

CHEMICAL WARFARE SERVICE.

Chemical troops, armed with mortars for firing TNT and smoke would have been invaluable in supporting the attack, especially during its early stages when little or no artillery was available.

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LESSONS FROM OPERATION "TORCH"

The following are extracts from the report of:

HEADQUARTERS FIRST PROVISIONAL BRIGADE
WESTERN TASK FORCE

Par. 1-d-2. The plan of operation must be rehearsed at least twice, with the shore line and interior terrain as nearly as possible like that to be encountered during the actual operation. During practice do not over-emphasise boat drill and debarkation drill. If the coxwains of the landing craft are properly trained and equipped the troops will reach the beach. It is then that every man must know his job and go immediately about it without confusion; otherwise, the beachhead will never be established. At least one rehearsel should be made under cover of Navy gunfire — actual fire. Troops that never experienced terrific effects of Naval bombardment will imagine all sorts of unknown dangers and will bog down or be thrown into utter confusion by their first taste of it. The opening of our own Naval gunfire, well-timed and accurately placed to support our action threw one battalion into such complete confusion that it was many hours before it could be reorganized to continue the attack. Troops must be made familiar with the sounds and confusion of battle. This is proven by the fact that the troops of one battalion having broken in confusion at the first sound of Naval gunfire passing overhead on the opening day, held their positions within 100 yards of the target of a terrific air bombing attack on the third day.

Par. 1-d-4. The selection of leaders for each element of the command is of vital importance. It is absolutely necessary that they possess courage and initiative. Unlike all other combat operations, there can be no middle course in a landing operation. The results are either completely successful or disasterous. Therefore the leader of each unit must be endowed with the spirit to go on to accomplish the mission at all costs. This was proven during this operation where a leader permitted his unit to be pinned down by enemy fire and suffer losses, while later with a change in leaders, this same unit moved forward to the attack and complete success with minimum losses.

Par. 3-b. Individuals were given insufficient opportunity to practice with the weapons with which they are armed. A secret weapon regardless ofits potentiality is of little use if it is a secret to the troops who are to employ it. Rocket guns were provided after these troops had embarked and were fired for the first time in combat. Rifle grenade launchers had been issued prior to leaving the home station, but little opportunity afforded for practice. Therefore, although these weapons had tremendous possibilities, they were as strange to us as they were to the enemy and just as fearful. I firmly believe that unless individuals are trained to have confidence in the weapon they are using and full confidence that their support weapons will render timely support, future operation against a determined enemy will meet with many disasters. If 1/10 of the ammunition expended during the battle of Nichdia had been fired at home stations prior to embarkation under realistically planned combat conditions, it would have saved 75% of the ammunition expended during this battle.

Par. 4-c. The personnel of a Combat Team selected for amphibious training should be frozen in their respective jobs at least six weeks prior to embarking. The injection of large numbers of newly made officers and recruits at the last minute constitute definite weak spots in the team and it is impossible to test these people or to bring their training up to standard during the voyage.

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The following are extracts from the report of:

HEADQUARTERS SECOND ARMORED DIVISION

Par. 3-a-6. **Prisoner of War Interrogation Teams should be organized so that all teams attached to a force are alike. They should not be organized on a language basis. Similarly organized teams will provide for relief, and enable the teams to handle larger groups simultaneously.**

Par. 3-a-7. **If it is not practicable for the entire personnel of Prisoner of War Interrogation Teams to be included on the ship with the AC of S G-2, at least the senior member should be with him. In this way the team can be instructed as to what is desired, and intelligent co-operation will be assured.**

Par. 3-a-8. **Closer contacts should be established, prior to landing, between G-2 and IPW units so that interrogators may be completely informed concerning the time and place of landing, method of operation and specific information desired.**

Par. 4-b-2. **While it is realised that the guarding of absolute secrecy is paramount it is believed that details of the plan of operations should have reached junior officers earlier. It would have been highly desirable to War Game the situation or at least hold a CPX, using blank maps, prior to leaving the UNITED STATES, and to permit the supervised study of blank maps and aerial photos by junior officers.**

Par. 4-b-3 **Training in street fighting should be included. This must comprise methods of driving snipers from buildings detection of booby traps, mopping-up a building and consolidations of positions.**

Par. 4-b-4. **Attached personnel should join their basic units at least one month prior to the operation, should live with it, mess with it, and be considered an integral part of the team. This should include all personnel.**

Par. 4-b-6. **More training in the proper use of bangalore torpedoes is necessary; errors such as placing caps in torpedo when loading into lighters, misunderstanding methods of placing, and the structure and composition of the torpedo not being known were seen and reported.**

Future planning and execution of operations.

(1) Preliminary planning and coordination between G-3 Air and the Naval Air-Support Party is most essential.

(2) The G-3 Air must be included in Staff Conferences and informed of the broad picture.

(3) Naval Aircraft should be in direct support of Landing Force in order to provide flexibility and prevent loss of time in obtaining air-support.

(4) No Army air-support was available during the landing operations.

Par. 5-a-4. **The equipment carried by the soldier in the past operation is believed to be substantially correct. The soldier must go over the side light and be able to live in the clothes that he wears for three or four days. A man is able to get along very well on one bermuda bag for the first 10 or 15 days. The officers still carry too much equipment which materially interferes with their proper functioning. They must be light.**

Par. 5-a-5. **Lack of an adequate and well organized Military Police unit seriously impeded the operation of the IP section for the following reasons:**

Prisoners were not searched for weapons. Many prisoners were found still armed with loaded weapons. Had the attitude of the prisoners been hostile, and had they been determined to escape, they could have easily done so and serious consequences might have resulted.

Prisoners were not properly segregated. Prisoners were freely allowed to talk among themselves and to the guards. Cigarettes were given to prisoners prior to interrogation. [illegible] officers were overheard [illegible] of military value.

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Since adequate guards were not provided for prisoners, a large part of the interrogation personnel was occupied in guarding and searching for weapons, impeding greatly the rapid processing of prisoners.

Par. 5-a-6. Lack of organic transportation for the IPW unit caused much loss of time in setting up a prisoner of war enclosure as well as in moving prisoners, contacting adjacent units and in supplying and obtaining information for these units.

Par. 5-a-7. Military Police should arrive on shore early to adequately guard and care for prisoners pending the arrival of IPW units.

Par. 5-a-8. An officer should be designated as provost Marshal who can devote his entire time to this duty.

Par. 5-a-13. Maintenance personnel, should be provided in each tank company sufficient to insure that 1st echelon maintenance is performed on all armored vehicles.

Par. 5-a-14. Maintenance should be given a high priority in debarkation and amply supplied with electric accessories.

Par. 5-a-15. If possible transports must be combat loaded to insure success on landing. Placing vehicles of one combat element on one ship with its personnel on an other must be avoided.

Par. 5-a-16. Supply and control vehicles for artillery and infantry battalion headquarters should be included in landing teams. Although artillery batteries and infantry companies are initially detached from parent battalions they are soon regrouped under battalion control.

Par. 5-a-17. Preparation of vehicles for combat loading should be centralized and assembly line methods used. Much preliminary work done at Fort Bragg was a definite hindrance at the Port of Embarkation. Shrouds placed over engine compartments prevents proper treatment and water proofing of engine. Some tanks were sealed before rations and ammunition could be stowed. Much grease placed on vehicles at Fort Bragg had to be entirely removed at Port of Embarkation to permit sealing. Shrouds on medium tanks damaged many oil bath air- cleaners when shrouds were dropped on landing.

Par. 5-a-19. Trucks to move supplies were not landed until after supplies were being put ashore. Consequently everything piled up at landing points. Trucks to move supplies must be given as high priority as the tactical situation will permit.

Par. 5-a-23. Too much work had to be done on vehicles after arriving at Port of Embarkation.

Par. 5-a-24. Advance parties must be instructed as to the work they are to perform upon arrival at the Port of Embarkation.

Par. 5-a-25. Shipment of ammunition to Port of Embarkation was not properly supervised consequently the delivery of required ammunition to specific ships was not accomplished.

Par. 5-a-26. 105 mm ammunition was packed in crates of six rounds each which made it too heavy for two men to handle.

Par. 5-b-1. Individual and organizational equipment.

Equipment of all types is generally satisfactory. The following changes are recommended:

One trailer (1 ton) for each Medical half-track.
One 250 Gal. water trailer for each kitchen.
One tank trailer per battalion section of Regimental Maintenance. (For use in salvaging tanks with tracks blown off.)

Par. 5-b-2. Very small parts kits with fuzes, bulbs and tire caps should be provided in a box and kept in every vehicle at all times. This, in theory again, is done but there has never been sufficient replacements available to permit of this supply.

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Par. 5-b-3. Small kits with complete units, such as carburetors, pumps, generators, spark plugs, distributors and lines, should be provided with a carrying case or box for each company maintenance section.

Par. 5-b-4. Salvage must be learned and practiced by everyone. The last piece of broken frame or stripped bolt will some day provide stock for a machining operation. Salvage can be enforced only if all spare parts are issued on a strict exchange basis.

Par. 5-b-5. Each tank or vehicle commander should be equipped with a set of binoculars.

Par. 5-b-8. All units should be equipped with CP, RSO, Gas, Hq. etc, signs on landing to assist in traffic control and in the location of units by personnel not familiar with the area.

Par. 5-b-9. Facilities for cooking are needed. At least sufficient to heat water for coffee. The small gasoline stove issued on the basis of one per vehicle is very satisfactory. It is recommended that the basis of issued be changed to one stove per each four men.

Par. 5-b-10. The "K" ration should include more coffee. Few men were seen who used the soup component issued with the supper ration. A small can of soluble coffee as is issued with the "B" ration should be included in each "K" ration.

Par. 5-c-1. Special training of individuals.

The individual soldier must be taught the proper method of searching prisoners for documents and weapons. Prisoners were discovered carrying guns and knives strapped to their legs or inside boots as long as forty-eight hours after capture. Also some important documents were removed from officers - hours after their capture.

Par. 6-a-1. Future planning and execution.

Communications should be established prior to sailing. All nets should participate in frequent Command Post exercises. The operators should be acquainted with each other and with their equipment. New methods of procedure or new items of equipment which are untried should not be used. The operation of landing on a hostile shore is difficult at best and as much familiar equipment and methods should be employed as is possible. The inclusion of new and untried methods or material can only serve to confuse.

Par. 6-a-2. There must be direct communication between the unit that is landing and the Navy and Air-support.

Par. 6-a-5. There was too much decentralization and lack of coordination in signal matters between AFAF, Task Force "A" HQ, HQ Armored Force and subordinate headquarters. The large numbers of sources of signal operation instructions, signal personnel, signal equipment, and general instructions built up a card house of tension and uncertainty which could have collapsed under any kind of nervous or high-strung reception. Instructions must come down through command echelons. The system of having a clerk blindly copy and then reissue instructions under a new heading for redistribution to subordinate units when the time element is critical should be carefully avoided.

Par. 6-a-6. Successful operation depend upon centralization of communications responsibility in joint operations.

Par. 6-a-9. Signal operation instruction should be limited to absolute essentials. They should not be mixed with SOP or training literature. They should come down through one channel only. In the past operations, SOI were issued late, in several cases after sailing. They were bulky and verbose; material from training regulations and field manuals were included. Subordinate units repeated instructions of superior units, sometimes verbatim, sometimes with variations. The general effect was of passing the buck rather than of instructing and assisting subordinate units.

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Par. 6-b-1. Individual and organizational equipment.

The radio equipment provided for boat control, beach-battalion, Army beach and other short range nets was generally unsatisfactory. The excellent communication results obtained during landing operations of Sub Force X-ray were largely through an unauthorized FM net. A selected crew of well trained operators equipped with SCR 509 radio sets stood by. Their sets had been thoroughly proven in previous troop use and were regularly tested duringthe stand-by period. These sets immediately filled in where regular circuits failed and in addition provided the several channels to reconnaissance observation and salvage parties which had not been fore-seen in the original plan. FM radio equipment should be experimented with for use on boat control, beachmaster, and other short initial circuits of the landing.

Par. 7. Surgeon.

a. Collecting and clearing facilities and dental care for a mobile operation were non-existent. Evacuation of battle casualties would have been virtually impossible and only a limited number could have been given adequate treatment.

Par. 7-b. The medical personnel were not apprised of the details of the necessary medical records sufficiently in advance of the expedition, resulting in complications which were completely avoidable.

Par. 7-c. Some medical officers of this command should have been given special training in diseases peculiar to the theater of operations.

Par. 9. Adjutant General.

On the subject of administration, it is believed that the troops of the Western Task Force took the minimum staffs and administration personnel necessary to accomplish the mission. In the early stages, combat is the essential item and as long as voluminous peace time reports are not required, staffs can be reduced and thereby expedite action. However, it was noticed that upon the arrival of a large number of administrative officers, they began to harrass the troops with unnecessary reports which would give them some reason for existence themselves. These officers overlooked the fact that the troops were still operating with skeleton staffs with no personnel sections and with very limited means of typing. The administrative wolves must be kept off the backs of the troops until the rear echelon of the combat elements arrive in order that they then may exercise each other to the fullest extent thereafter.

Par. 10-a-5. Commanders of units must be with their troops, or in direct contact. In assault battalions the battalion commander should be in either the first or second boat wave. The commander of the force should be where he has constant radio communication with the elements of his command. It has been learned that messages were never received by Headquarters Western Task Force aboard the USS AUGUSTA because the cruiser was engaged with French warships. During the fight, all communication was neglected. As a result of this, the Commanding General lost touch with the situation. If it is deemed essential that the commander be on a warship because of the need of communication, these communications should not be entrusted to the personnel of the Navy which may have certain other duties to perform during action, but should be directly under the Army. Only in this way can absolute control be exercised.

Par. 10-a-13. It is believed the most simple method of directing waves to shore is to precede them by a destroyer which has the necessary navigation instruments to set a true course. The destroyer also has the gun power necessary for close artillery support. Many of the trick methods of lights and submarines, ideas that volumes are written about, were useless. while theoretically sound, they were impractical for execution due to darkness, heavy seas etc.

Par.10-a-14. For a successful landing, the closest support between the air and the attacking forces is essential. This air-support was effected in a high degree by the Navy in the operation at S.F.L. On immediate call, planes put down accurate bombing on targets which were preventing the advance of troops and docking of ships and which could not otherwise be reached by any gun power then available. Reconnaissance by air is absolutely vital as, in the early stages, no reconnaissance is available for anything beyond a few

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miles of the beach. Unless air [redacted] support can be given in addition to the normal protection of the convoy, the attack has little chance of success.

Par. 10-6-16. Too much cannot be said for the necessity of training in landing operations. However, there has been a greater emphasis placed on the training of the [redacted] Navy; whereas the reverse should be the case. The Army [redacted] up and down the sides of a ship, to disperse on the beach, [redacted] attack formations, but this is of no use if the Navy is unable to successfully bring the small boats up to the sides of the ship, unloaded those troops, proceed to shore, and hit the correct beach with the wave properly dispersed and correctly timed. All of this can be accomplished but it requires detailed planning. The lowest rating must be thoroughly versed of the entire operation so that he can take his place intelligently. For example, the first practice landing exercise held by the [redacted] in CHESAPEAKE BAY, made one shudder as to the possibility of success of the combined operation. However, by means of intensive instruction on board ship, supported by the use of drawings and paintings on the dock, the soldiers, cowboys, boat wave commanders, and group commanders became welded into an intelligent, understanding team and, when the actual operation took place, a very creditable performance which in previous practice exercises did not seem possible.

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The following are extracts from the report of:

HEADQUARTERS
MOROCCAN COMPOSITE WING

Par. 1.A-1-b. Do not activate a new unit for transfer overseas within three or four weeks. This throws many new men and officers together who are strangers and cannot function to the best of their ability. Pick an old outfit that is organized and let the new unit take its place in the U.S.

Par. 1. A-1-c. Have a replacement plan drawn up by War Department experts and given to the unit before departure so they will know what to expect in the line of personnel.

Par. 1.A-2-c. That the initial planning by the War Department General Staff include the arrangements for automatic delivery of the following items to the units incolved.

(1) Maps and Aerial Navigation Charts.
(2) Target Charts.
(3) Escape Kits.
(4) Photo Interpretation equipment
(5) Data on the geography, population, government, defenses, etc., of the theater of operations.
(6) Aircraft identification material
(7) Map supplies.
(8) Current enemy information

Para. 1.A-2-e. That provision for counter intelligence Security be included for Base Operating units as well as adequate Guard personnel

Par. 1.A-3-a-2. It is recommended that in future operations of this nature the full A-3 section should be completely assembled a minimum of three months before the operation is to commence, and that, once assembled, it can be changed only for extraordinary cause shown.

Par.1.A-3-b-2. Many Air Corps Officers and enlisted men were not equipped with shelter halves, orders having been issued to some units that they would not be taken. These were badly needed after the initial assault.

Par. 1. A-3-b-3. No typewriters were brought with the first echelons, notwithstanding which higher headquarters immediately after landing called for a variety of reports, in some instances requiring many copies. Since it is probable that such reports will likewise be called for in future operations, some typewriters, preferably portables, should be provided to all units for the preparation of their reports.

Par. 1.A-3-b-4. Air Corps troops were seriously handicapped on arraival by lack of transportation. Transportation for Air Corps troops and supplies had been promised by the ground forces before sailing. This transportation was never furnished. It is recommended that in future operations sufficient transportation be taken by Air Corps troops for their own needs, without dependence on the ground forces.

Par. 1.A-3-c-1. Many of the Air Corps troops, both officers and enlisted men, had not received adequate basic training, particularly in such matters as field sanitation, preparing encampments and taking care of themselves in the field, interior guard duty, care and use of weapons.

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Par.1. A-3-c-2. The majority of Air Corps troops went down a loading net for the first time when they [illegible] the assault waves ashore. These troops were burdened with full field equipment in making their descent. That there were not many casualties resulting from this lack of training was due largely to the smoothness of the sea, lack of opposition, and luck.

Par.1.A-3-c-3. Troops should be properly instructed in the method of wearing their equipment while travelling ashore in the assault boats. In some instances the troops buckled on their full field equipment and then placed a light rubber life belt on the outside of this equipment. As a direct result of this improper wearing of equipment five officers and sixteen enlisted men, whose assault boat overturned 40 yards from shore, were drowned. There can be no doubt but that many if not all , of these men would have been saved had there life belts been inside their equipment with their equipment(including helmets with chin straps unfastened) unbuckled and hanging loosely on their persons.

Par.1.A-3-c-4. The life belts worn by all troops were designed to be inflated by two Carbon-Dioxide cartridge charges. On at least one boat the troops were never issued but one charge of the required two, and in many cases these were expended before disembarking because no instructions were issued as to their use. No replacements were available.

Par.1.A-3-d-1. Due to lack of opposition there were no combined operations between air and ground forces. However the communication squadron (Air Support Parties) were the main communication means available to ground units for 24 hours.

Par.1.A-4-a. Future planning and execution of operations may best be made by having an experienced staff of officers retained in Washington who have been thru an operation such as ours, to advise the "green" staff and assist in procedures.

Par.1.A-4-d. All equipment should be carefully chosen initially. Following this detailed plans should be prepared for the loading of boats, with careful study and consideration being given to the order in which the equipment will be needed on landing. Equipment should be loaded in inverse order of its need on landing. The Air Corps should be given equal say with ground troops in determining the order in which all equipment will be loaded. troops should be provided with a light weight, waterproofed sleeping bag, capable of easily being carried on the back. In this operation men were soaked in landing through the surf and remained wet for several days. They had no means of sleeping in a dry place or changing into dry clothes.

Engineers.

Par.1-a-2. Insufficient time allowed to procure and ship shortages to the port; This was due somewhat to refusal of Bases and Depots to take final action pending assignment of shipment numbers. Each organization should have a reliable Officer at the P.E. to stock and note location of tonnage and to insure that ships are loaded according to the prearranged plan. Navy and Army transport personnel should be held strictly accountable that ship is loaded according to plan.

Par.1-a-3. Shipment numbers are generally too small; the use of gasoline solvent paint should be prohibited as it is too easily removed and numbers changed. Numbers are recommended to be three inches high in contrasting oil paint and to be placed on four sides of vehicles and six sides of boxes and crates. Shipment numbers would be better if numerically for each large organization such as the Air Force, or Divisions with Port Authorities and all concerned cognizant of numbers, including Enlisted Men. Practice of using more than one letter suffix to numbers should be avoided, as this causes great confusion.

Par.1-a-4. Materials used to crate numerous boxes and crates were too light for the weighty contents of the packages.

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Par.2. Organization equipment should be team loaded, that is men who man or operate specific equipment, should be loaded in the ship with that equipment. Ammunition, gas equipment should be spread among several boats and not loaded in one ship.

Par.3-d-1. Time allowed for training landing operation of Air Force Units too short.

Signal.

Par.1-b. The people who are doing the actual planning should be as close together as possible so that close contact between branches of the service, headquarters of Air, Ground and Naval Forces, could be maintained. Considerable time was wasted in working out plans with units that were considerable distances from Washington.

Par. 1-c. Insufficient time was given for the distribution of British codes. These codes were forwarded by Officer Courier and did not arrive in time for distribution, not to mention time to properly instruct Cryptographic personnel of this and lower units.

Par.1-d. More time should be given to a loading and unloading plan. The necessary communication equipment should be loaded so that it can be taken off when needed. Inthe TORCH operation, important radio equipment needed in the landing operation was loaded so that it could not be reached at the proper time. It appeared that the equipment was loaded in the order in which it reached the docks and not according to a loading plan.

Ordnance.

Par.2. The operating staff of the Ordnance section, officers and enlisted men, should be assembled with least practical delay in order to assist in planning. The fact that only one officer was present in the section for the first two weeks meant that all his time was devoted to ammunition study and little time to spare parts, automotive equipment and, automotive spare parts. It was necessary to have this automotive planning done by the Ordnance Section of the Task Force.

Par.3. Of the six Ordnance Companies, Service Groups, for the Air Support Command, three Ordnance Companies, Service Groups, were split between the D5 and D40 convoys. These companies, T/O strength of 4 officers and 60 enlisted men, were of little use at only 2 officers and 30 enlisted men, strength and little equipment. It is believed that no ordnance Company, Service Group, should be divided, as the Moral and effective employment of the unit suffers tremendously.

Par.4. The fact that the T/BA Automotive equipment for all air units was cut to practically nothing might have proved to be a major disaster had continued resistance been encountered. The movement of Air Corp personnel and all classes of supply was dependent upon trucks belonging to the ground troops Particularly was this true with heavy bombs, small arms ammunition and gasoline. It is believed that no unit should be sent on an assault unless it can go completely equipped with all motor vehicles plus 5% spare vehicles.

Medical.

Par1.c. It is also felt that a more coordinated system of unloading and handling of supplies and equipment at the port be established. It was frequently observed that much valuable medical equipment was lost, damaged or stolen. In some instances boxes and crates were left exposed to the weather and so were damaged, biologicals were not kept in refrigeration , supplies and equipment were transported to various dumps and depots irrespective of shipment numbers and in many cases units obtained equipment and ambulances not consigned to them simply because they could not or would not attempt to find their own.

Par.1-d. During the early phases of the operation there was not, in many cases, an adequate supply of potable water. In addition, there was excessive delay in providing adequate supplies of drinking water in certain locations, after the initial phase.

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Par.1-b-1. Assault troops should carry absolute minimum. Appropriate clothing should be worn; This clothing impregnated. Service masks prove a definite hazard when personnel are forced to shed equipment in the event of an overturned landing craft.

Par.1-b-2. Masks for assault troops on landing operations should be small and incased in waterproof container or bag attached to the pack and not around the body.

Par.1-b-3. Carbon dioxide inflatable life belts should be worn deflated under equipment and packs so that it may be inflated and of use to the personnel after equipment has been shed.

Chaplain.

Par.1-a-1. Organizations having assigned Chaplains should not, except under extreme pressure for boat space, leave Chaplains for later echelons of movement.

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[redacted] Commanding General

4 January 1943

Subject: Lessons from Operation "TORCH".

To: Commanding General, Allied Forces.

1. In compliance with 1st Ind., Headquarters, Center Task Force, dated 20 December, 1942, to Letter, dated 16 December, 1942, Headquarters, Allied Force Headquarters, (AG 370.2/054 - C), on the above subject the attached report is submitted. In this connection attention is invited to the fact that this Headquarters was not formally organised until the assault phase of the "TORCH" operation was completed and the subsequent phases well under way. Individuals of this staff, however, did participate in some phases of the planning for the operation. This report is therefore based on, and largely consists of, comments and recommendations of those individuals.

2. The report has been divided into two sections, one (I) covering the five headings outlined in par. 1 of Letter, dated 16 December, 1942, Headquarters, Allied Force Headquarters, (AG 370. 2/054 - C), and one (II) consisting of comments pertaining to the various general and special staff sections.

/S/ T. B. LARKIN.
T.B. LARKIN,
Brigadier General, USA,
Commanding.

Section I
Section II

S E C R E T

HEADQUARTERS
MEDITERRANEAN BASE SECTION
Office of the Commanding General

4 January 1943.

LESSONS FROM OPERATION "TORCH"

I. Comments and recommendations on the subjects listed in par. 1, Letter, AG 370.2/054 - C, Allied Force Headquarters, dated 16 December, 1942.

a. FUTURE PLANNING AND EXECUTION OF OPERATIONS.

(1) The "time factor" involved in supply was not fully appreciated resulting in directives, some of which were impracticable, if not impossible, of fulfillment.

(2) Operations hindered by lack of service troops. These troops were not provided in time to adequately house the supplies or distribute them resulting in tonnage damaged, wasted or lost. Adequate numbers and kinds of service troops should be provided even in the initial echelons. Although fighting troops must first seize the beachhead, they should be accompanied by a properly balanced quota of service troops. When this is not done either (a) combat troops must be diverted to service tasks for which they are not trained, this reducing the effective combat strength by more men than would have been necessary if trained service troops had been available or, (b) supplies cannot be gotten to the troops when needed.

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(3) Too much independent and uncoordinated action of task forces involved as well as the several echelons and agencies in United Kingdom connected with planning and implementing of plans.

(4) Difficulty experienced due to the fact that in this operation one group planned and operated initial supply setup; a second agency, M.B.S., was set up and took over after the operation had started. It is recommended that SOS establishments be organised earlier than was the case in this operation. A Base Section staff, to include at least Chiefs of General and Special Staffs, should be designated and start functioning without other duties at time the development of plan is initiated. These staffs should be brought in to the theatre to start functioning as soon as combat conditions permit. In the case of "TORCH", they could well have taken over about D plus 13. This would permit prompt inauguration of basic static policies.

(5) The supply planning staff should be fully informed of operational plan and given the complete troop list. Even when secrecy is of paramount importance this staff must be fully informed to insure intelligent detailed planning.

(6) The requisition lists of operation "TORCH", the actual materials and supplies shipped, and their rates issued and consumed should be tabulated, studied, and reproduced with pertinent remarks concerning each item so as to be available for future operational planning.

b. INDIVIDUAL AND ORGANIZATIONAL EQUIPMENT.

(1) The tendency of field forces to set up conveniencies of utilities and quarters beyond true field scales should be discouraged by field force commanders. While the comfort and morale of troops may make such additions seem desirable, much waste has been noted in the area (CTF) where troops have moved from staging or temporary locations, deserting seized or pilfered plumbing and lumber materials which have been looted by natives.

(2) Individual clothing should be reduced to barest essentials. Class II should then be included in earliest freight shipments.

(3) Moving of troops into a theatre in advance of organizational equipment creates a real shortage of critical items as is apparent at present in this theatre. Organization equipment should either accompany troops or immediately follow them. Many units have arrived in the theatre without field ranges, resulting in unnecessary hardship; no field ranges have been available to provide for these units while awaiting their own equipment.

(4) It is considered essential to have sufficient sanitary material on hand at beginning of operation in order to cope with conditions such as are met in the theatre. This was not done in "TORCH" operation.

c. BASIC AND SPECIAL TRAINING OF ALL INDIVIDUALS AND UNITS.

(1) More stress must be placed on physical hardening exercises and training prior to departure for theatre.

(2) Service units should be trained to defend themselves against attack.

(3) Service troops should be given working experience in their specialities before reaching the theatre.

(4) Camouflage training and discipline are needed for all arms.

(5) It is of utmost importance to organize and train teams to prevent typhus. These teams or organizations should be composed of Quartermaster Sterilization and Bath Companies reinforced by provision for disinfestation, venereal prophylaxis, clothes dryers, serums and vaccines for immunization, all in one group and trained in duties to combat typhus.

d. TRAINING AND EQUIPMENT FOR COMBINED OPERATIONS OR SPECIAL OPERATIONS.

No information available upon which to base comment.

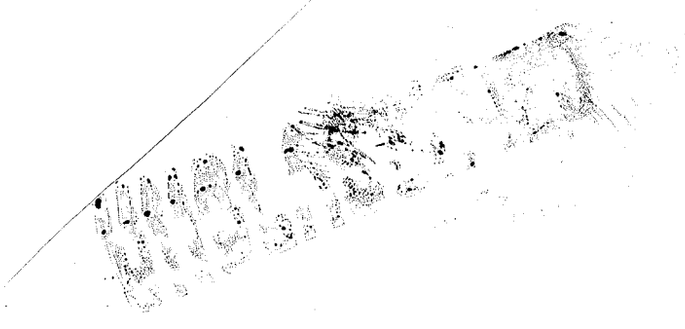
e. COOPERATION BETWEEN ARMY, NAVY AND AIR.

NAVY: It was not definitely known whether salvage operations were to be prepared for by the Navy, so that a group of 20 divers, 5 of whom had had considerable civilian experience, were trained in England from the personnal of the 343d Engrs. Upon arrival the Navy took charge of clearing the harbor of Oran. These 20 men were attached to the Navy salvage group. They were, however, employed by the Navy on little or no diving work so that their return totheir organization was [redacted]

AIR: Interchange and co-relation between air, ground forces and services and between their staff sections must be maintained, throughout planning. In the planning of "TORCH", supply information and planning were highly compartmented, resulting in duplication and omission.

(1) Air Field Construction. Engineer Aviation units are best utilized for rapid airport construction in forward areas. Air ports in base sections or rear areas can well and quite flexibly be handled by Base Section General Service Regiments with attached Dump Truck Companies and portions of Equipment Companies. Such combinations of engineer units rather than Engineer Aviation Battalions are adaptable to both ground and air construction work as the situation may develop. It can only be accomplished, however, if General Service Engineer Troops are brought in to the theatre early.

(2) Base Section Engineers can well co-ordinate and meet the engineer supply needs of Air Force units and their engineers. Timely requisition by Air and Ground Force units thru their unit engineers will consolidate and simplify requisitions on the Zone of the Interior and the handling and issue of depot stocks in the theatre. This consolidation is recommended.



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HEADQUARTERS
MEDITERRANEAN BASE SECTION
Office of the Commanding General

4 January 1943.

LESSONS FROM OPERATION "TORCH"

II. Comments and recommendations on the subjects listed in par. 1, Letter, AG 370.2/054 - C, Allied Force Headquarters, dated 16 December, 1942.

G-4 SECTION.

1. If but one lesson may be learned from this operation, it would be to stress more forcefully the need for service troops (in time to serve combat troops).

2. The fallacy of moving troops into a theatre in advance of their organizational equipment is evident in the real shortage of critical items currently existing. The fact that the troops now in "TORCH" are in some manner furnished with fighting equipment, was, and is being accomplished in spite of the failure to equip units prior to their departure from home stations.

3. The issuance of instructions for the movement of supplies has been so restrictive as to act as a complete stopper. The issuance of such instructions limited to one or two numbered copies, as obtained in the U.K., could readily have proved fatal to the entire "TORCH" plan. More detailed planning and the supply consciousness must be required of those responsible for distribution, of instructions. It was necessary for Americans to obtain operational information through the British War Office in order to insure supplies reaching the ports.

ENGINEER SECTION.

1. After the initial echelons have provided sufficient combat troops to hold the ground necessary for the building up of the expedition, service troops should be brought in, in high proportion.

2. Service troops should include:
   (a) Adequate guard units for the protection of depots.
   (b) Fire fighting units.
   (c) Bomb disposal units.
   (d) Depot companies and depot labour bands.

3. Even at this date only one Engineer Depot Company is available, whereas three are needed, plus approximately 800 laborers. A Dump Truck Company (whose equipment was lost) and two companies from the Amphibian Engineer Brigade have been diverted, and the rapid termination of hostilities has made native labor available. Only these fortunate circumstances have served to tide over the period until adequate depot troops can be obtained. Their use gives less efficient results, and the absence of properly trained units would probably have caused a serious breakdown in Engineer Supply had a more extensive campaign been necessary.

4. A large quartering and real estate group should accompany an early echelon. Procedures should be published to the entire command promptly, and an orderly system of requisitioning suitable to the theatre immediately initiated.

5. Issues of maps have generally been reported as too large, particularly of the larger scales and the area covered too great. This comment should be taken with caution, since the operation "TORCH" was of extremely short duration.

6. Shipping boxes from the U.S. were too large so that the weight of the paper (maps) they contained was too great for the box structure. Boxes about 1' x 3' x 4' should be about the maximum size, reinforced along the edges and the lids fastened with [illegible]

7. Service troops should [illegible] thoroughly trained before reaching theatre. Even depot labor [illegible] instructed and acquired skill to unload, handle, and [illegible] supplies.

8. Depot companies are primarily for the overhead of stock record-keepers, warehousemen, checkers. These duties require special knowledge training and experience. The lack of it on the part of these units means wasted time and transportation in shipping, re-handling and the like. These facts are often insufficiently considered by combat-trained higher headquarters.

9. Specialized units, properly trained and provided, are worth many times their actual numbers. The fine performance and results accomplished by the special pipeline and water supply units have confirmed the wisdom of their position in early "TORCH" echelons.

10. More pipeline units, especially in the first echelon are indicated.

SIGNAL SECTION.

1. This section was considerably handicapped in following the equipping of the units with signal equipment of supplies, because it had the responsibility of following up on supplies but had no official status.

2. Although no marked failure of individual or organizational equipment, has been observed, an error was made in the supply of equipment which delayed getting equipment into the hands of the troops. This error was the sending of troops from the U.S. to U.K. without their T/BA equipment. These units coming from the United States and short T/BA equipment, immediately upon arrival in the U.K. placed requisitions for shortage on all supply services and greatly depleted small stocks maintained in U.K. In many cases, after these requisitions were filled, the unit received from the U.S. it's T/BA equipment which it had been short. This gave the units surplus supplies that not only exceeded T/BA but which were urgently needed by other units. The result was, that the supply service temporarily lost complete control of issue. When the units were subsequently alerted the overage so accrued were turned in to the supply depots, but in the interim, these supplies should have been available in the depots for issue. Although these supplies surplus were shipped as maintenance on later convoys, they should have been used to fill T/BA shortages of the alerted units and the earlier maintenance.

3. There was no evidence that more training was required other than some confusion which could be expected upon the hasty assembly of a new staff.

QUARTERMASTER SECTION.

1. In future planning and execution of operations of this type, it is strongly recommended, that the agencies which are finally to operate the supply system be activated, organized and required to handle the supply situation from the outset. Tremendous difficulties have been encountered in organizing the Quartermaster in the N.B.S. on the spot, due to the fact that a great many of the Officers are unfamiliar with the basic pattern planning methods of operation already set. Had the organization functioned from the very beginning, and had been responsible for QM supply, a great deal of confusion would have been eliminated and the supply problem from the Quartermaster viewpoint would have been much better in hand at this time.

2. It is further recommended that in future operations the needs of the supply services be more thoroughly considered. At the present time, the Quartermaster supply service of the N.B.S. is seriously undermanned in operational units. The total number of units which have been set up for the Quartermaster service will be able to handle the situation when it arrives, but the most critical period, from the operational point of view, is the beginning and development of the supply service. In order that the supply services may be set up and function properly, it is essential that the maximum number of operating units be furnished as early as possible.

ORDNANCE SECTION.

1. The Ordnance Section was unable to ascertain from the planning group the firm requirements for the ordnance major items and Class II general supplies, spare parts, which would be required to make up shortages in T/BA equipment of troops assigned to "TORCH" and to properly maintain such equipment in the new theatre. This resulted in the submission of bulk requisitions prepared in general terms on both the SOS-ETOUSA and the W.D.

2. Lack of information in AFHQ and CTF HQ relative to the availability of Ordnance shortages in the principal supply source (the U.K.) resulted in blanket requisitions being submitted on SOS-ETOUSA, which could not possibly be filled.

(EQUALS BRITISH [redacted]

3. It is recommended that the Ordnance Officer of the senior headquarters be charged with the responsibility and given the authority to supervise and coordinate ordnance activities, both planning and operational, of all forces and echelons, concerned with the operation.

MEDICAL SECTION.

1. From a Medical Base Section viewpoint the early establishment of fixed hospitalization to relieve the mobile tactical units is a necessity, especially if there is much fighting, so that mobile units will not become bogged down.

2. In order to establish fixed hospitalization, especially when fighting is going on, it is considered a necessity for a Medical Base Section to get the hospitalization plan operating early and quickly by having the following:

a. Medical Battalion attached tothe Base Section at an early date in the operations.

b. An Ambulance Battalion or its equivalent in ambulances and drivers.

3. The quick institution of sanitation by having sufficient sanitary material on hand at the beginning in order to cope with conditions. This to consist of:

a. Quartermaster Sterilization and Bath Companies.

b. Methyl Bromide fumigation complete (Methyl Bromide dismountable fumigators, Methyl Bromide Dispensing Sets and Methyl Bromide).

c. Materials against flies, Lethane; flit with extract Pyrethrum (300 mgs. to 100 cc's of flit), spray guns, fly swatters, fly paper, and sufficient screening for immediate needs.

d. Sufficient chlorine, that is, Calcium Hypochlorite (High Test Bleach) in cans to sterilize water supplies for our own troops and occupied areas and for general sanitation, foot baths, dish and glassware sterilization.

e. Cresol for general sanitation used to break the chain of hand to mouth infection.

f. Larvacides against mosquitoes, such as, Paris Green and the like.

g. The early establishment of working organizations composed primarily of:

(1) Quartermaster Sterilization and Bath Companies, with provision for Methyl Bromide disinfesation, Venereal Prophylaxis, Clothes Dryers, Suits Preventive, Typhus; serums and vaccines for immunization, all in one group and well trained in the duties to combat typhus. It is believed necessary to organize and train teams to prevent typhus. One such team is now in process of formation in the Mediterranean Base Section, with the idea of this and future operations in mind.

(2) The equipping of Medical Base Section personnel with individual Medical Department equipment, peculiar to their function, i.e., kits for Medical, Dental and Veterinary officers, kits for non commissioned officers, Medical, Dental and Veterinary, kits for privates, Medical, Dental and Veterinary, for use in emergencies, alerts, air-raids, etc.

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